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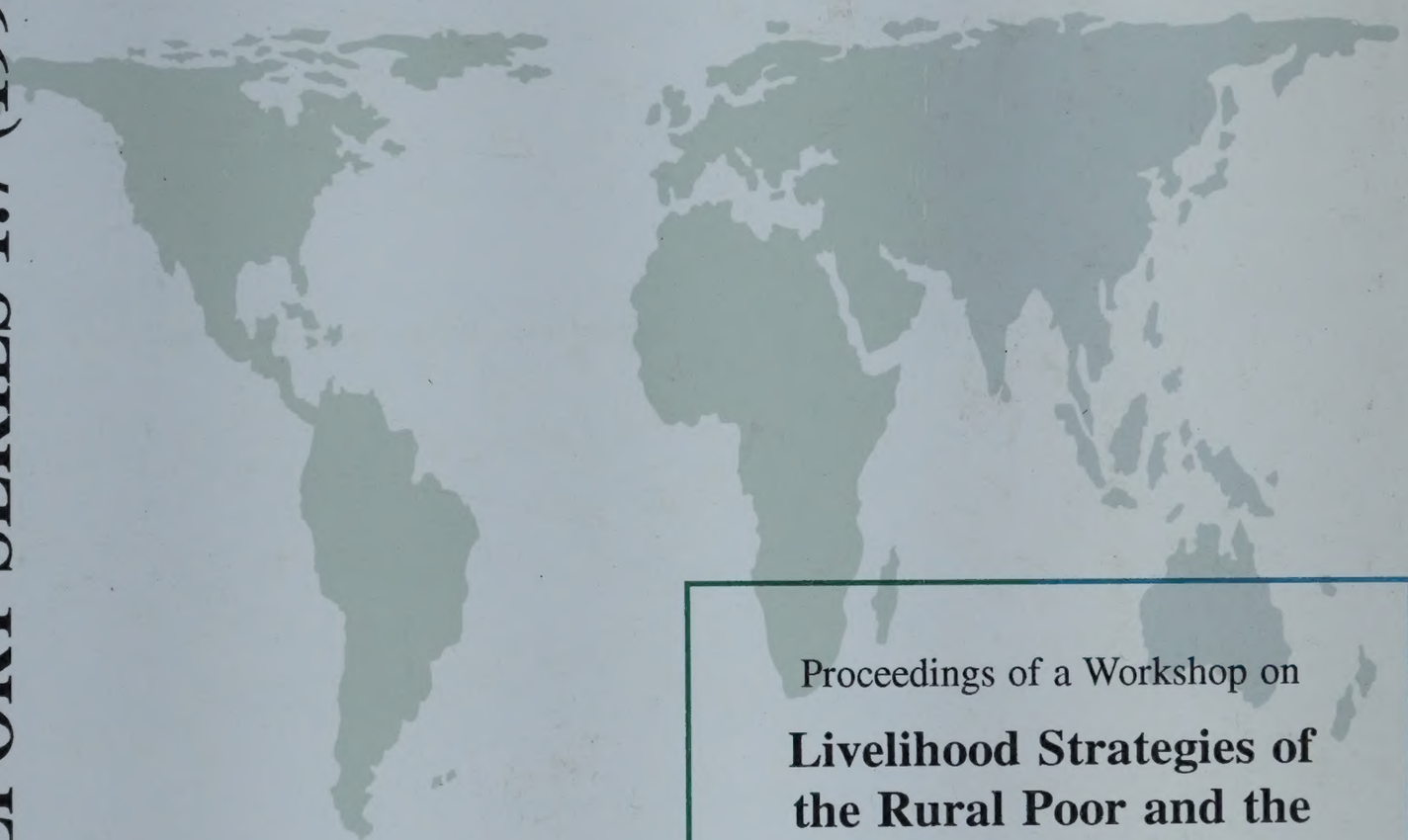

Proceedings of a Workshop on

Livelihood Strategies of the Rural Poor and the Environment

A Joint Initiative of

Hivos, India Regional Office
and
AME, Bangalore

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LIVELIHOOD STRATEGIES OF THE RURAL POOR AND THE ENVIRONMENT

Editor : Jamuna Ramakrishna

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Technical Report Series

This Technical Report Series is part of the Hivos-India Regional Office's effort to participate actively in the debate and dialogue in India on issues of human development and emancipatory interests. This series consists of monographs, working papers and Hivos conference proceedings. The publications reflect policy concerns of Hivos regarding development issues in India and address the problems faced by the marginalised in developing countries, such as in the areas of human governance, environment, gender, the politics of development, technology choices, and economic activities.

Series Editor: Shobha Raghuram

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Jamuna Ramakrishna

PREFACE

From time to time, Hivos organises workshops on its policy priority areas in order to stimulate exchange of ideas and experiences in the development sector, and also to keep abreast of progress in the theory and practice of development in specific sectors. The workshop on environment was held in December 1995. Within the vast canvas covered by the environment-development debate, the workshop focused on livelihood strategies of the rural poor, since it is the rural poor whose livelihood options are being squeezed due to a rapidly degrading resource base, and exacerbated by a lack of external inputs. In the worst-case scenario, the poor are forced into non-sustainable and ecologically damaging livelihood strategies for lack of other options. For many living at the margin, therefore, "development" boils down to finding a viable and sustainable livelihood strategy. "Right to Livelihood" translates literally to "Right to Life". The irony, of course, is that the few occupying the "safe" centre follow dysfunctional and unsustainable livelihood strategies with perfect impunity. For the moment.

Since most rural livelihood strategies revolve around agriculture and, thus, expertise in this area was essential, Hivos sought the collaboration of AME (Agriculture, Man, Ecology), a research and training organisation focusing on rain-fed agriculture in South India. AME lent its considerable experience in designing and conducting the workshop, while taking primary responsibility for organising the session on "Agriculture- and Forest-based Livelihoods".

Early on, it was decided that the workshop should try to bring out inter-sectoral linkages, and encourage interaction between people working in different sectors by having four sub-themes, the sub-theme mentioned above on Agriculture- and Forest-based Livelihoods being one. The other three were Livelihoods Based on Fisheries; Livelihoods Based on Rural Industries; and Coping Strategies in Disaster-prone Areas. Kurian Katticaren coordinated the sub-theme on fisheries; TARU took the lead in organising the sub-theme on coping strategies in disaster-prone areas; and Hivos coordinated the sub-theme on rural industries.

Case studies were prepared for each sub-theme and presented at the workshop. The case studies were the core of the workshop; like so many windows on ground reality, they provided a starting point for discussion, and a point of reference as the debate continued. The workshop was 3½ days long, with a mix of plenary sessions and parallel sessions. The four sub-themes were dealt with over two days, with parallel sessions each day. Participants had a choice of attending sessions on any two sub-themes. Plenary sessions at the beginning and end of each day brought all the participants together to share the progress made in the parallel sessions. The participants represented a wide cross-section of people from NGOs, academia, movement, donor agencies, and most importantly, some of the people whose stories were being told in the case studies. The emphasis was on sharing experiences across sectors, identifying common issues, and exploring the potential for initiating cross-sectoral alliances. The workshop schedule is given in Annexure B, and the list of participants in Annexure C.

In this report, we will present the gist of the discussions, while trying to convey the spirit of the interactions. A brief introduction will provide an overview of some of the common threads that ran through the workshop, the cross-cutting themes that appeared time and again in different sessions, in different sectoral contexts. Not surprisingly, these threads, upon reflection, proved to be the warp and woof of the environment-development debate.

The introduction is followed by overviews of the key issues that came up in the sessions on each of the sub-themes (Section I). In Section II, the case studies are presented. Since we felt it was important to preserve the emotional commitment of the case study authors which is reflected in their unique styles and perspectives, there is a great deal of variation in the length, format, and quality of the case studies. In the instance of the weavers' co-operative from Rajasthan, two case studies were prepared, one by a representative of the co-operative and one by a representative of the NGO involved in facilitating the emergence of the co-operative. Since each presented a different viewpoint, we have included both in this report. The case studies represent the collective experience and analysis of groups and communities rather than of any particular individual. For this reason, the case studies are "presented by" certain individuals on behalf of the larger group. The brief discussion notes following individual case studies have been prepared from the workshop transcripts.

The theme statement of the workshop and the sub-theme papers are given at the end of the report (Annexure A).

For a variety of reasons, this report is much delayed. The initiatives described in the case studies have progressed considerably since the workshop. The debates, too, have moved on. The key issues that came up during the workshop, however, are so central to the environment-development debate that they remain relevant today. ■

Jamuna Ramakrishna

INTRODUCTION

In the struggle for survival, the day-to-day problems faced by fisherfolk may be quite different from those faced by dryland farmers, forest gatherers, workers in small-scale rural industries, and those living in disaster-prone regions. The solutions to these problems may be quite different as well, at the level of the farmer or worker, at the level of the community, and at the level of the State. Yet, the case studies and subsequent discussions showed that there are some common concerns, some running threads which are central to the issue of livelihood strategies. The manner in which these common concerns are articulated varies because of the substantial differences within and between various sectors in

- the ability to identify problems;
- the level of institutional development;
- the development of a unified mass-based movement;
- the level of co-operation or collaboration among different organisational structures (e.g., people's groups, community based organisations, NGOs, trade unions, co-operatives, etc.);
- the political acumen of the leadership - of the people who speak on behalf of the fisherfolk, farmers, etc.

The long-term resolution of many of the persistent problems in individual sectors depends on successfully addressing these common concerns, by translating into action shared perspectives, strategies, and priorities, and by influencing mainstream development policy formation and analysis. With this rationale, we begin this workshop report by trying to unravel these common threads.

The Right to Livelihood

The basic principle that should form the foundation for all future work on livelihoods, which was articulated most clearly in the session on livelihoods based on fisheries, was that the Right to Livelihood should be recognised as a basic human right, alongside existing constitutional rights. It is the Right to Life, in the most literal sense. An extension of this line of thought is that those engaged in the struggle to survive ("pure" livelihood) cannot be held responsible for the ecological and other consequences of their struggle. Rather, it is the responsibility of society and the State to see that this struggle is successful. If the principle of Right to Livelihood were to guide economic policy and development initiatives, the struggle of the worker, who is presently at the mercy of macro-economic changes, to regain a voice and a vote would receive an impetus. The place of workers in the decision-making criteria of the State and industry would also improve.

The Status of the Worker

The status of the worker is very often related to the amount of control she has over the resource base on which her livelihood depends. Likewise, the health of the resource base often reflects the condition of the worker. It is, therefore, in the long-term interest of both the worker and the resource base that the well-being of one should not be divorced from the sustainability of the other.

Measures of Development

A major obstacle to this inclusive view of worker and resource base is that existing measures of performance or progress do not place the worker *or* the resource base at the centre. In fact, many development indicators externalise the human and environmental costs of "development". As many have observed before, existing standards of productivity and efficiency are derived from the dominant development paradigm, which stresses uniformity rather than diversity.[1] Such yardsticks provide little opportunity for including the ecological security of the resource base or the livelihood security of the worker in the reckoning. There is need not only to develop alternative measures that reflect different priorities but also to work for increased acceptability of alternative measures. Just as there is a continuous effort to include a greater level of complexity and wider selection of variables in the Human Development Index, a parallel effort is needed for measuring economic development so that the resultant measure(s) rely less exclusively on market indicators and provide a more balanced assessment of worker, resource base and market.[2] A biodiversity-based measure of performance has been suggested; following that line, one could think of composite measures that would include a broader span of concerns, ranging from human welfare and ecological sustainability to economic viability.[3] As long as such measures are not developed, tested, refined, used, and accepted, most development activity will continue to be guided by relatively uni-dimensional measures of progress. To a large extent, progress is shaped by instruments used to measure it.[4]

Subsistence and Surplus

The direction of development was questioned time and again during the workshop. Though a variety of opinions were expressed, the basic argument often boiled down to subsistence versus

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1 Shiva, V., 1996, *Globalisation of Agriculture and the Growth of Food Insecurity*, Report of the International Conference on Globalisation, Food Security and Sustainable Agriculture, New Delhi, July 30-31, 1996, New Delhi, Research Foundation for Science, Technology and Natural Resource Policy, p. 17.

2 For a perceptive discussion on the Human Development Report 1995, see Rao, N., Rürup, L., and R. Sudarshan, eds., *Sites of Change: The Structural Context for Empowering Women in India*, UNDP and Friedrich Ebert Stiftung, New Delhi, 1996.

3 Shiva, V., 1996, *op. cit.*

4 One can view this as a chicken-and-egg question, which comes first - the vision and the power to determine the direction of progress or the development of appropriate instruments to measure progress? The point is that the existing instruments have been decontextualised and have become inordinately influential. Needless to say, much more than an academic exercise is required, the essential ingredient being the political will and mass-based support to translate an alternative development paradigm into programmes and action.

surplus. The former point of view was formulated most eloquently by a participant who said, "We (NGOs) should endeavour to link livelihoods closely with the existing resource base. The poor have nothing but the poorest of resources. The intention should not be to take these resources and cater to the dominant markets. The intention should be to strengthen what can be produced locally and consumed locally."

On the other side of the fence were those who saw in the macro-economic changes that are occurring an opportunity for economic progress in rural areas. The sessions on livelihoods based on rural industries and on fisheries, especially, elicited this perspective, leading to a debate on sustainability based on "sheer survival strategy" as opposed to sustainability based on urban and export markets. Pointing out that rural industries can access a broader market if they are "globalised", a participant argued that "it is the only option in terms of long-term survival, until perhaps the rural market can grow to sustain the rural economy" but agreed that simultaneous efforts should be made to strengthen the rural economy. Most found this strategy to be ideologically problematic but recognised the need to explore systematically the potentials and the problems presented by the ongoing process of globalisation.

Many wondered whether the freedom to make the choice between subsistence and surplus exists at all, especially for those whose livelihoods are constantly under threat. Livelihood options may be determined by a combination of environmental conditions and market forces which compel some to produce for a globalised market at sub-subsistence levels. The distinction between subsistence and surplus grows further blurred as the vulnerability of surplus producers caught within a linear economy is accentuated.

Common Property Resources

The workshop showed that the rural landscape is being increasingly influenced by the macro-economic changes occurring in the country. Though there are efforts by various institutions and individuals to delineate the nature of this impact, there are too few studies that yield data that can be generalised beyond a specific group of villages. One area where such data are urgently needed is the status of common property resources (CPRs) under the new economic regime.[5] Clearly, the pressure on CPRs is increasing - due to increased value of land, consolidation of wealth in certain strata, growing unemployment, etc. But so far there are few systematic and regional data to show how decreased access to CPRs is affecting the livelihood strategies of the rural poor.[6] This is critical information if anything is to be done.

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[5] Even before the NEP came into effect, CPRs had been dwindling at an alarming rate. According to the National Commission on Rural Labour, the ratio of CPRs to total village area declined from 21% in 1950-1952 to 12% in 1982-84 and the number of persons per hectare of CPRs increased from 46 to 117 during the same period. Reported by Kathyayini Chamaraj in "Legal Succour for the Landless Labourer: An Arid Option", *Humanscape*, November 1996, pp. 6-9.

[6] In a seven-state study about 10 years ago, Jodha estimated that the income generated for each poor household from CPRs in dry regions ranges from Rs. 530-830/year. Noting that this is a substantially higher amount than income generated by several anti-poverty programmes, he suggested that restoration of the status and productivity of CPRs may be the most effective anti-poverty strategy. See Jodha, N.S., "Common Property Resources and Rural Poor in Dry Regions of India", *Economic and Political Weekly*, 5 July 1986.

In strengthening existing management structures for common property resources, it is vital to be aware of power dynamics within the village. Existing community structures that mediate access may systematically exclude some section of the population (e.g., women, dalits). Thus, it would be important to ensure that any strategies adopted do not exacerbate the marginalisation of the already marginalised.

With this concern in mind, more information is needed on existing local natural resource management systems[7] and more experimentation is needed on innovative management practices for common property resources. It has been suggested that the existing categorisation of property regimes is too narrow (public, open access, private, and state) and that, under present economic conditions, "hybrid" management strategies should be tested which might prove to be more appropriate than management strategies that follow the dictates of property ownership.[8] For instance, instead of assuming that all CPRs should be managed by communities, better land use practices might result if community lands are given to individuals to manage (under a clear management agreement). The fact is that community management structures have been severely eroded in most communities, and economic pressures are such that successful community management of CPRs may be less likely than individually managed CPRs, where the individual is paid by the community for managing the common land/pond/etc. and the community as a whole benefits from the product of the CPR.

Institutional Concerns

Whether it is effective land management or viable producer co-operatives, there appears to be a lack of adequate **organisational structures**. In some instances, the existing structures are constrained by the role played by the government (e.g., co-operatives), in others, traditional structures have been severely eroded and not replaced (e.g., the maintenance of village tanks). Whatever the case, the workshop participants felt that wherever possible, the strengths of existing organisational structures should be identified, since these have a historical base, legitimacy within the community, and associated management systems and procedures. More often than not, it might be that existing organisational structures can be revitalised by blending traditional practices with modern methods, and bringing in change as necessary to address exploitative relationships, if any.

The tendency for bureaucracy to formalise institutions may bring its own set of problems, especially since formalisation may increase the distance between a given organisation and the people whom it is supposed to serve. Where people have ceased to look upon formal

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[7] A study of land use and poverty alleviation in India, Bangladesh, Bolivia, Colombia, Peru, Ghana, Botswana, Ghana, Mali, and Tanzania showed that though there is increasing attention to farmers' technical knowledge of their own land use systems, little information is available on local natural resource management systems. See ICCO, Novib, Cebemo, Hivos and DGIS, 1995, *Poverty Alleviation Through Sustainable Land Use*? The Hague, DGIS/DPO, Co-financing Programme Evaluation 58a, p. 21.

[8] Sharachchandra Lélé, personal communication.

institutions as viable and useful organisational structures, it is necessary to lobby for changes (e.g., co-operatives) in order to make them effective.

Along with re-vitalising existing organisational structures, workshop participants agreed that **indigenous knowledge**, coping strategies for responding to recurring hardships, and natural resource management regimes should be revived. It was suggested that exchanges among communities in different regions which face similar problems might help in this process (the example given was that, in the north-east, there are traditional housing designs that are adapted to the periodic flooding of the Brahmaputra. A similar tradition has been lost in Bihar).

Besides giving due importance to community expertise and experience, workshop participants gave priority to **building capacity** within communities to deal with their own problems. There was consensus that the trajectory of mainstream development has by-and-large tended to undermine the capacity of communities for problem solving, particularly when the problems relate to sustainable livelihood strategies.

In this context, the **role of the government** and the **role of NGOs** came up for discussion repeatedly. The unfortunate tendency has been to create dependency in one form or another at the community level. The case studies presented in the workshop illustrated, time and again, how the role of NGOs could vary from that of a watchdog or a catalyst to that of a facilitator or manager.[9] Each of these roles posits a different relationship between the NGO and the community, and leaves varying spaces for capacity building within the community. Likewise, the government's attitude towards sharing information and providing access to financial resources meant for development activities can mean the difference between a dependent relationship and one where the initiative is on the side of the community. These patterns are often accentuated in times of crisis, as demonstrated in the sub-theme on coping strategies in areas prone to disaster. If the government and NGOs can play a role that is supportive and geared towards community capacity building during non-crisis times, the community's ability to respond to disaster when it does strike will be much stronger.

The sub-theme on fisheries-based livelihoods gave some of the best examples of the enormous potential that exists for NGOs, trade unions, co-operatives, and people's groups to work together for common objectives, and to lobby the government and industry for a jointly defined agenda. In other sectors, there is both less clarity on the agenda and many fewer instances of co-operation or collaboration among different bodies. This could be due to the greater heterogeneity of conditions and concerns in other sectors.[10]

The fisheries sector is also unique in that it displays the greatest evidence of a unified movement with a strong and politically mature leadership. Clearly, to effect change on a large-scale, it is

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9 Sometimes NGOs run the risk of taking over the responsibilities of the government. Dependency in the relationship between NGOs and government is another area of discussion.

10 There are shared issues and concerns within the sub-sectors (of agriculture, for example), however, which could form the basis of common campaigns.

essential to build a **mass base** and to engage the political system. Otherwise, lobbying and advocacy will have little effect. In the words of a workshop participant, "Unless NGOs are able to develop strategies to address political issues, we cannot take these ... movements further."

It seems that, given the difference in the situations in the various sectors, a great deal could be gained from **cross-sectoral alliances**. Not by simply replicating strategies from one sector to another but by studying each other's experiences and exchanging insights regarding strategy, negotiation techniques, political advocacy, mobilising and organising people, securing media and public support, etc.

An added benefit of such alliances could be an increased awareness of the linkages among the different sectors. There is a clear need for all those working on the issue of livelihood strategies to take a comprehensive view of their work. So far, the emphasis has been overwhelmingly economic, to the detriment of ecological, cultural, and social concerns. It is also easy to forget that these sectors do not operate in isolation, that there are close interactions between agriculture, animal husbandry, forestry, rural industries, fisheries, etc. We can indulge in such forgetfulness only at our own eventual cost.

Within sectors, too, there is a need for groups to interact and exchange information, since that is critical to building a movement, along with political awareness and action. Thus, though "network" no longer occupies the position of honour in NGO/donor vocabulary, **networking** remains a key activity and necessity.

Environment and Ethics

Finally, given the topic of the workshop and the concerns of the participants, the focus was on livelihoods, on *human* livelihoods. We spoke of ecological security but again in the context of human needs and long-term survival. This is clearly an anthropocentric view. In the final analysis, such a view is not defensible. Quite apart from ethical and moral considerations, which are significant in themselves, human survival and sustainable human livelihoods cannot be separated from the survival of other species, whether plant or animal. The inter-linkages are too close and too poorly understood for complacence or indifference. Thus, the plea for a holistic approach includes a plea to broaden the world view of development initiatives so that they are based on an understanding and appreciation of the fact that, in the long term, human livelihoods, ecological diversity, and sustainability are inextricably inter-linked. ■

SECTION I

LIVELIHOODS IN FOREST AND FIELD

Two concepts proposed and illustrated in the case studies prepared by Fatimson *et al.* and Prakash *et al.* fuelled spirited discussion in the sub-theme on forest- and agriculture-based livelihoods: "voluntary" land alienation, and "positive" encroachment.

"Voluntary" Land Alienation

"Voluntary" alienation of land refers to the situation where a small or marginal farmer willingly sells land to an entrepreneur (usually engaged in land development activities of one sort or another), and, thus, loses his/her sole productive asset. This phenomenon is becoming increasingly common in many parts of the country; the case study referred to is Tamil Nadu. Frequently, the land in question is rainfed, and unproductive at the time of sale. The situation of small and marginal farmers is such that they are losing money growing food grains (an estimated Rs. 10/quintal/rice and Rs. 40/quintal/ragi and sorghum in Karnataka). The economic compulsions are clear. Even if the land is sold for a low price, putting the sale money in a bank to earn interest would constitute a more sound financial decision than continuing to cultivate food grains. In addition to economic considerations, government policy and the public distribution system (PDS) are not favourable to the small and marginal farmer. Since the Green Revolution, dryland agriculture has received little infrastructural support.[1]

Many workshop participants argued that where lands are highly productive, there is little risk of land alienation, except perhaps in the urban periphery. Shri. Yellappa Reddy alluded to the same argument in his concluding remarks when he said, "people have lost their economic base because they do not know the value of it; they sell (their resources) at a meagre price... They have disregarded these resources, destroyed (these) resources because they thought (them) not sustainable or not economical or not profitable." The challenge, therefore, is to bring rainfed lands back into productive use. This, of course, is easier said than done since one of the key necessary inputs is growing scarcer all the time - water.[2] Simultaneously, traditional methods

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1 The nature of R&D support provided to dryland agriculture has tended to aggravate the problem. Jodha observes that "rainfed agriculture is dominated by fragile, low-productivity and high risk agro-ecosystems. Disregarding the imperatives of these features, the conventional R&D and development programmes in dry regions have indiscriminately focused on resource use intensification. The consequence is an emergence of indicators of unsustainability of current production systems and resource use patterns." Jodha suggests that future rainfed farming research should move away from its traditional crop-centred approach towards diversification strategies (e.g., developing location-specific niches such as dryland horticulture, and product processing) - in collaboration with user groups and local NGOs. See Jodha, N.S., "Ride the Crest or Resist the Change? Response to Emerging Trends in Rainfed Farming Research in India", *Economic and Political Weekly*, 13 July 1996, pp. 1876-1880.

2 Existing scarcity may be exacerbated by the increasing trend towards privatisation of water. Official World Bank policy on the liberalisation of agriculture recommends the creation of "markets in tradeable water rights". This implies that the rights of the highest bidder would be ensured, probably at the cost of those with lower purchasing power, though one might argue conversely that the bidder with the lower purchasing power may outbid others because she/he attaches greater value to the good. For a discussion of the implications of tradeable water rights, see Shiva, 1996, *op. cit.*, pp. 20-21.

of harvesting water are rapidly eroding.[3] An additional problem is that most small and marginal farmers do not have the wherewithal to invest and develop their lands, even if water is available.

In the case study from Tamil Nadu, land was being bought by companies running teak plantation investment schemes based on large-scale plantation of teak. These companies have aggressive advertising campaigns to attract urban investors who often believe that they are contributing to environmentally friendly ("green") economic activities. A possible response, as suggested in the workshop, could be to conduct a parallel information dissemination campaign that tells investors that the Green Investment Scheme they are participating in will alienate *x* number of farmers from the land that is their only productive asset.

Such schemes, however, are only one among many players in the rural land markets. The growing inclination of the state and central governments is to open up land markets (e.g., recent amendment of land-related laws in Karnataka, Maharashtra, and Gujarat).[4] More domestic companies, multi- and trans-national corporations will try to acquire land as large-scale plantation, animal husbandry, floriculture, horticulture, etc., projects are initiated. New forms of absentee landlordism are appearing in rural areas as emerging market forces shape new mechanisms of land alienation and land encroachment. Very often, women are disproportionately affected by these changes in land ownership patterns and lose usufruct rights.

Workshop participants agreed that reviving rainfed lands should receive top priority from communities, NGOs, and the government, especially considering the implications of land alienation for the status of CPRs, the condition of the water table (already disastrously low in many dryland regions), and for the value of land in the surrounding areas (would neighbouring farmers be able to hold on to their land?). The impact of the relative neglect of agricultural products (e.g., pulses) grown on rainfed lands has to be re-assessed at policy levels as well.

An additional advantage of bringing rainfed lands into productive use, workshop participants observed, is that when land becomes their livelihood (as opposed to land being perceived as a -disposable - asset) farmers automatically become more interested in soil and water conservation. The participants felt strongly that projects on watershed development should be linked to issues like land alienation.

Clearly, several actions on several levels are necessary - technical inputs, extension of credit, blending traditional and modern farming practices, setting up seed banks, etc. The magnitude of the challenge is such that meeting it at the level of the individual farmer will be impossible. As the case studies demonstrated, in rainfed areas and drought-prone regions very little can be done without collective effort. Innovative arrangements to make land and water accessible to those who lack productive assets can play an important role in reviving rainfed areas. Again, this

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[3] For a comprehensive review of the status of traditional water-harvesting technologies, see *Dying Wisdom; Rise, Fall and Potential of India's Traditional Water Harvesting Systems*, New Delhi, Centre for Science and Environment, 1997.

[4] Shiva, V., 1996, *op. cit.*, pp. 19-20.

requires collective decision-making and resource-sharing not only in setting up such arrangements but also subsequently in helping people to develop such lands. Such an experiment was described in a case study from Khudawadi, southern Maharashtra, where a group of landless women have begun cultivating "waste" lands under a sharecropping type of agreement with private landowners.

In a very fundamental sense, land alienation is related to what one workshop participant termed as the loss of "the joy of agriculture/cultivation", which implies a culture and lifestyle that are bound to the agricultural cycle, whatever its concomitant hardships may be. This loss can be correlated to a number of factors, including the loss of control over means of production, the loss of ability to decide what seeds to grow and what inputs to use, the switch over to cash crops, growth of the cash economy, and the decline of the rural economy. Rural women are especially affected by these changes.

There was a consensus among workshop participants that systematic alienation of people from land, forests, i.e., their resource base, disempowers them. Data are urgently needed on the scale of land alienation in different parts of the country and on how land use conversion is affecting the livelihood of the rural poor, so that appropriate action can be taken. Since the situation is dynamic, this cannot be a one-time effort.

"Positive" Encroachment

Similar data are needed on the extent of total encroachment on land. The case study on Siddis in Uttara Kannada distinguished between "positive" and "negative" encroachment on land, depending on the reason for encroachment. Hence, "positive" encroachment is defined as encroachment occurring for "pure" livelihood reasons, i.e., survival, and "negative" encroachment is associated with commercial activities, thus providing a qualitative distinction between the actions of the landless and marginal farmers, and the actions of timber contractors and their ilk.

There were many points of view among the participants about the validity and implications of the concept of positive encroachment. Some felt it was an oxymoron, and that encroachment, whether positive or negative amounts to privatisation of (public) lands. They expressed concern that positive encroachment might lead to conversion of forest lands to non-forest lands, and that the label "positive" hides external costs (e.g., effects on neighbouring communities, ecological degradation). Others felt that the concept could be looked upon as an effort to mediate the environment-development deadlock, and that the effort to make qualitative distinctions among different classes of people with different needs was, in itself, valuable. There was general agreement that the positive encroachment, as presented in the workshop, remains conceptually vague, leaving much room for argument regarding where the line between "positive" and "negative" should be drawn. Serious ecological, political, and practical issues have to be worked out. As presented, it is unlikely to win over anyone who is not already convinced of the overarching importance of protecting the livelihoods of landless and marginal farmers. It was also felt that the long-term ecological implications of encroachment, whether positive or

negative, have to be taken into account, before labels such as "positive" or "negative" can be given.[5]

Both the case studies that presented the concepts that raised so much debate in the workshop, voluntary land alienation and positive encroachment, illustrate the increasing pressures on land and the rising difficulty in meeting the three needs that have to be fulfilled: the need for food security; the need for cash income/employment; and the need for ecological security.

Alternative PDS

The case study on an alternative public distribution system (PDS) suggested a way in which all these three needs could be met. While noting that neither the PDS nor rice at Rs. 2/kg can be equated with food security,[6] an alternative PDS was proposed that combines creating employment with improving nutrition, bringing fallow lands into cultivation, and increasing local control over local resources. In this venture, the initiative would be with members of the community in question while the government would play a supportive role. The premise is that since acreage under fallow is increasing annually while food security, rural employment, nutrition levels and ecological security are declining, a community-managed PDS based on bringing fallow lands into production and giving employment to the poorest could meet several needs simultaneously. The case study presented a successful alternative PDS set up in Ibrahimpur, and argued that present food (in)security is created by an uni-dimensional interpretation of productivity which has determined technological choices and shaped subsidy structures and extension services.

Some workshop participants expressed concern that setting up an alternative PDS transfers a basic responsibility of the government to already beleaguered communities. Others worried that, following the pattern of land reform processes where the worst lands were distributed to

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[5] While none of the case studies focused specifically on forest-dependent communities, there are increasing instances of mass displacement of tribals and loss of their means of production (i.e., the forest). Even instruments such as the Tribal Development Co-operative Corporation set up ostensibly to ensure that tribals 'get a share of the profits' from their resource base go awry. See, for instance, Das, V., "Minor Forest Produce and Rights of Tribals", *Economic and Political Weekly*, 14 December 1996, pp. 3227-3229. The politics of displacement due to declaration of wildlife sanctuaries and national parks is discussed in Rangarajan, M., "The Politics of Ecology: The Debate on Wildlife and People in India, 1970-95", *Economic and Political Weekly*, Special Number, September 1996, pp. 2391-2409.

[6] A recent survey of the effectiveness of PDS done by the National Council of Applied Economic Research showed that only 40 million households are covered (out of 112 million households as per the 1991 census), and only 8 percent of total food requirements are met in these households. Furthermore, the survey found that almost as many households in the high income group were availing the subsidies of the PDS as households in the low-income group, and that 40% of the total food grain off-take for the PDS was being supplied to urban areas, which have 26% of the population. Reported by Kalpana Jain in "Public distribution system covers only 36% of rural homes", *The Times of India*, Mumbai, 17 April 1996, p. 11. An in-depth study of PDS in Andhra Pradesh has shown that while most households in "developed" villages have access to the PDS, whether they are classified as poor or non-poor, in "backward" villages, a large percentage of poor households are excluded from the scheme. See S. Indrakanth, "Coverage and Leakages in PDS in Andhra Pradesh", *Economic and Political Weekly*, 10 May 1997, pp. 999-1001. He also notes that eligibility for PDS is based on size of landholding, which is a very misleading measure in areas where dryland agriculture is practised.

the poorest people, the alternative PDS was also based on lands with low productivity. Nevertheless, the case study undoubtedly presented an innovative solution to widespread and urgent problems. At the very least, it demonstrates the potential for improving food security and employment, using local resources and skills.

Conclusion

What became evident through the course of the session on forest- and agriculture-based livelihoods was that the sector is too complex to see the face of the "enemy", to identify by a single name the various threats to the livelihoods of farmers and forest-dependent peoples. Rather, these threats lie in the nature of existing land use practices, in government policies, and in the way property regimes operate. The "enemy" could be any consumer, industrialist, contractor, you or me.

This conclusion led workshop participants to question the underlying values of mainstream development, and the rights and responsibilities of people in different strata of society, and particularly on the unequal burdens placed on poor, rural people. As one participant put it, "When the forest is damaged, you cannot chase the tribal out. Are city dwellers chased out of the city when there is no water, or sewage cannot be disposed?"

The challenge to achieve food security in a manner that is ecologically sustainable, equitable and culturally sensitive has not diminished over the years. Workshop participants were convinced that the capacity to meet this challenge does exist within rural communities and that the duty of NGOs and government alike is to nurture that capacity and facilitate action, by transferring financial capacity if necessary, rather than to undermine that capacity and create dependence. ■

Diversity and Commonality

The three case studies presented in this session described very different types of rural industry with varying relationships with the communities in which they were based, with the market, and with government. Thus, the types of issues raised by each of the case studies were quite different, too. The case study on the agate industry in Khambat illustrated problems of severe occupational health hazards in the informal sector, sub-contracted labour, lack of insurance coverage, and non-payment of minimum wages, lack of alternative employment, and the problems of upgrading technology. The case study of the weavers' (unregistered) co-operative in Rajasthan raised issues of upgrading traditional industries, social entrepreneurship, the constraints of formal organisational structures, and the opportunity provided by urban and export markets. The case study on the DWCRA groups in Banaskantha, Gujarat, demonstrated the potential for linking small-scale rural industries to government schemes, the importance of control over the resource base (raw materials), and of capacity building within communities.

There were common issues also, namely the role of NGOs and government in rural industry, the economic viability of rural industry, and the potential for encouraging local entrepreneurship. There was a consensus that for an enterprise to be sustainable, the role of external agencies should be supportive and not managerial, and that NGO intervention should be based on a clear vision of long-term objectives and sound business sense. Creating linkages to government resources and information (rather than becoming the conduits for these) could be part of the supportive role that NGOs can play.

Much depends on the existing entrepreneurial spirit within the community, the available assets for investment, and the type of local skills. Workshop participants gave priority to innovative use of traditional skills and materials in setting up rural industry, while recognising that there are limits to which traditional industries can be upgraded. They also acknowledged that careful study has to be made in order to determine in which category of the hierarchy of livelihoods the greatest potential for entrepreneurship lies.

The economic viability of rural industries proved to be the most complex question since, even in the case studies, it was not clear whether the final balance sheet was positive or negative, if one included health costs, environmental costs, subsidies (in their various forms), and payment of adequate (at least minimum) wages. Many conventional industries show profits because they exclude most externalities in their accounting; however, their financial accounting provides a first estimate of viability (however misleading that may be). In the case of rural industries, especially those promoted by the government or NGOs, it is difficult to arrive at even this first estimate. The fact that many rural industries are the result of distress diversification rather than the outcome of a rigorous financial analysis and business planning complicates the issue further.

The urgent need for employment in rural areas is obvious as is the inability of agriculture to provide adequate employment for the rural workforce, especially in semi-arid zones. Lacking

alternatives, the tendency has been to over-exploit the natural resource base. This alone indicates the need for the development of sound rural industries, whether land-based or not.[1] At present, many rural industries, like the agate industry in Khambat, serve an external market, do not fall clearly into any rural industry category, employ contract labour, have extremely hazardous working conditions, pay low wages, provide no job security, often engage child labour, flout all environmental regulations, and probably work on small profit margins since almost every step of the process is sub-contracted. In the worst cases (e.g., some of the pottery factories in Gujarat), bonded labour is employed. NGOs find it very difficult to intervene in this situation because it is not easy to identify the employer, the workers depend on their jobs for their daily existence (there are an estimated 10,000 workers in the agate industry alone in the Khambat area), and alternative employment is extremely scarce. Not many have the capacity to unionise workers under these conditions, or to establish bargaining capacity. Ironically, it is increasingly consumer pressure from distant markets that finally force some change in these industries but the benefits to the workers are too few and too late, if at all.

Health Hazards, Workers' Rights, and Environmental Quality

The judiciary has been intervening in a growing number of cases of industrial pollution but worker protection is usually not the core of these judgments.[2] While increased access of victims to courts of law is absolutely necessary, implementation of the courts' directives has been sorely lacking. It has been argued forcefully that, in such a situation, "public actions directed at organising and educating people on environmental security and innovative responses to the problems posed by necessary industry and unnecessary hazards peter out", leading to the conclusion that "the resort to courts can be seen to be a progressive move only in the context of vibrant people's (including workers') movements, which can translate its directives, whatever they may be, to strengthen and broaden the movement."[3]

The court cases have sometimes had the unfortunate effect of appearing to pit workers' interests against the interests of the general public, a good example being the Supreme Court's order to shift 9000 polluting industrial units out of Delhi. The fact is that polluting units affect the health of both the workers and surrounding community, and the two problems are closely linked. In the case of the agate industry, for instance, whole families are affected by silicosis, workshop

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1 The issue of non-land-based rural industries raises, again, the subsistence vs. surplus debate referred to in the Introduction. The reality is that the niche available for subsistence agriculture has already been gravely disrupted and rural unemployment is a serious and growing problem. The ecological and social repercussions of this situation are discussed in Gadgil, M. and R. Guha, 1992, *This Fissured Land; An Ecological History of India*, Oxford University Press, Delhi. The growing need for non-farm employment is not limited to India, of course. A recent desk study covering countries in South Asia, Latin America and Africa concluded that though farming remains the economic mainstay of most rural households, erratic returns and increased constraints in access to land are making non-agricultural activities an economic necessity. See ICCO *et al., op. cit.*, p. 25.

2 There are exceptions, of course, the landmark judgement of the Supreme Court on a case filed by the Consumer Education Research Centre for workers in asbestos mines and industries being one.

3 "Judiciary's Role", *Economic and Political Weekly*, November 30, 1996, p. 3092.

owners and employees, because the fine dust permeates the landscape of entire villages. So far, the approach to industrial pollution and occupational safety and health has not been comprehensive; sporadic court closures of polluting units do not solve the problem. As PUDR, Delhi, has noted, "The authorities concerned should also move to initiate adequate measures to monitor firms in operation and enforce compliance with acceptable norms of pollution control and, just as importantly, employee health and safety."[4]

Given the slack enforcement of environmental regulations, small penalties for non-compliance, the availability of a labour force "sufficiently downtrodden and desperate for work",[5] and the overall political and policy environment favouring rapid economic growth, most industries can afford to ignore worker's safety and environmental protection. Trade unions, in industries where workers are unionised, tend to be engrossed in wage-related issues, reluctant to take up issues of worker-safety. Environmental groups do not usually include occupational health hazards in their agenda, and do not see common ground with workers' groups. This is truly unfortunate since "beyond all disputes, there is a fundamental common point for the politics of trade unionists and environmentalists: the right to life and livelihood of the working people. It connects the struggle against exploitation of working people with the struggle against reckless exploitation of nature."[6]

The NGO involved in the agate industry case tried to arrange life insurance coverage for the workers. The Employees' State Insurance Scheme (ESIS) is not accessible to workers in most small-scale industries, since most of these do not have 20 workers on their rolls - the minimum for eligibility in the scheme. Initially, the LIC issued policies to the workers and made payments when the workers died. Upon realising the high mortality rate, the LIC was not willing to continue coverage without hiking up the premium up to a level that was beyond the reach of the workers. When one considers the number of small-scale industries where similar occupational health hazards exist, it becomes clear that the burden of ill health and debilitation is vast. It has been estimated that almost 1.7 million workers in India are employed in small-scale industries where they may potentially be exposed to free silica dust. These industries range from potteries (exposure to china clay dust) to mines, quarries, stone cutting and polishing units.[7] Exposure to organic dusts results in similar respiratory diseases (e.g., byssinosis) and affect workers in cotton ginning mills, isabgol factories, etc. Though there have been attempts to improve the health services extended to those employed in these latter large industries through ESIS, those employed in small-scale industries have no such facilities.

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4 Purkayastha, S., "Pollution Control and Workers", *Economic and Political Weekly*, January 13-20, 1996, p. 62.

5 Hildyard, N., Hines, C., and T. Lang, "Who Competes? Changing Landscapes of Corporate Control", *The Ecologist*, 26(4):125-144, July/August 1996.

6 Sharma, M., "Labour and Environment: Confusions, Conflicts, Closeness", *Labour File*, 2(5&6):36-42, May-June 1996.

7 Saiyed, H.N., "Dust Related Occupational and Environmental Health Problems in India", in Jaitli, H., and A. Kumar, eds., 1996, *Dusty Dawn; Dust at Workplace and Workers' Nightmares*, New Delhi, Society for Participatory Research in Asia (PRIA), pp. 58-69.

This problem will become more severe in the future and the rural unemployed will be the most affected. The trend has been to shift the most hazardous production processes to less and less economically developed areas - globally and nationally - with no check on the negative effects of technology transfer.[8] This trend is accompanied by an increase in sub-contracting different steps in the production process and employing contract labour, two effective means of controlling labour and minimising the responsibilities of the employer.

For the most part, the workers have no recourse. They offer their "bodies as evidence"[9] but to date, too few have taken this evidence seriously and acted upon it to improve working conditions, especially in the informal sector. Technology upgradation, where attempted, presents two levels of challenges. One is to create a willingness on the part of the employer to invest in upgrading equipment. The second is to ensure that the existing work force is not displaced by the technological improvement. If the new equipment requires workers to be re-trained, it cannot be assumed that the existing workers will be re-trained and will benefit. Women workers may be disproportionately displaced in such cases, and when mechanisation reduces the size of the work force, their position is further affected.

It is a point of concern, too, that the occupational health hazards that workers face often overshadow structural problems within the industry itself, such as lack of a cohesive wage structure and social security measures.

Community Initiatives and Institutional Linkages

The potential for communities and local entrepreneurs to set up rural industries themselves depends a great deal on the quality of the resource base available and the control that the community or entrepreneurs have over it. As the case studies showed, it is not simple to select an appropriate organisational structure for the enterprise. Though a producer's co-operative may seem ideal in many cases, co-operatives are bound by many regulations and are subject to government interference in almost every stage of their functioning. Many, therefore, choose to remain informal groups or to register themselves as societies. The mechanisms for handling profits and re-investing in the business may be complicated by the lack of an appropriate organisational structure. Clearly, there is an urgent need for reform of co-operative laws, for better understanding of co-operative principles, and for implementation of revised laws once legislated. Producer co-operatives could benefit from improved access to credit, and assistance in financial management and marketing as well.

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[8] Jaitli, H., "Occupational Health and Safety: Problems and Solutions", in Jaitli, H., and A. Kumar, eds., 1996, *op. cit.*, pp. 1-19.

[9] Judkins, B., 1986. *We Offer Ourselves as Evidence: Towards Workers' Control of Occupational Health*. New York: Greenwood Press. Contributions in Labour Studies #19. Workers in other countries have struggled through a similar period of exploitation and have fought for the improvement of working conditions. But they, too, have paid with their lives as this title indicates, and their struggle continues today as new hazards emerge in the work place.

The Banaskantha case study shows that creative linkages to government schemes can help small-scale rural enterprises establish themselves. The changing role that government sees for itself may affect the availability of such schemes in the future. Though there is no immediate crisis, NGOs and development workers will have to consider the long-term implications of Government of India's increasing inclination to reduce and/or transfer to state governments, schemes that have been centrally sponsored to date. Schemes such as DWCRA and TRYSEM would fall into this category.

Conclusion

There is an urgent need and scope for innovation in this sector. NGOs intervening in the sector must be as well-versed in the economic development as in socio-political analysis. Non-traditional NGOs (e.g., co-operatives, federations) have an important role to play. A vital contribution that NGOs can make is to disseminate information, regarding available government resources, for instance. Further, NGOs could facilitate the building of collaborations between people's organisations, financial institutions, government, and non-traditional NGOs. ■

FISHERIES-BASED LIVELIHOOD STRATEGIES

The issue of access to and control over an open-access resource base was fundamental to the discussion in the session on fisheries-based livelihood strategies. The increasing mechanisation of fisheries, combined with the entry of joint-venture enterprises threatens the livelihood of fisherfolk, the sustainability of the resource base on which they depend, and the availability of cheap animal protein to the large number of fish consumers.[1,2]

Common Campaigns

The fisheries sector has demonstrated a remarkable degree of cohesiveness in developing common strategies and platforms for addressing common problems. In two recent instances, it has been able to close ranks and develop effective campaigns against joint ventures for deep-sea fishing and aquaculture. Both of these campaigns have been successful, the latter resulting in a Supreme Court ruling ordering the closure of environmentally damaging aquaculture activities. The ruling also recognised the adverse effects that the aquaculture activities were having on livelihoods of agricultural labourers and on common property resources in coastal areas, where lands were becoming saline and the groundwater table was affected.[3] On the issue of deep-sea fishing, the Murari Commission, which was set up to review the New Deep Sea Fishing Policy of 1991, specifically recognised the strengths of indigenous technology and knowledge system, and expressed concern that these might be rendered obsolete by allowing unrestricted access to foreign-made joint venture vessels, long-liners and purse seiners, trawlers which deplete the resource base at a rapid rate, and create further havoc by straying into coastal waters, the domain of traditional fisherfolk and the breeding ground for juveniles.[4]

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1 A recent work on the sustainability of small-scale and artisanal fisheries urges the implementation of "aquarian reforms which will provide small-scale fishworkers with greater effective control over the coastal fishery resources and the primary activities of the fish economy." See Kurien, J., 1996, *Towards A New Agenda for Sustainable Small-scale Fisheries Development*, Trivandrum, South Indian Federation of Fishermen Societies (SIFFS). Kurien argues further that the sector needs "empathy rather than sympathy", i.e., efforts should be made to build on inherent strengths rather than to compensate for weaknesses.

2 These problems confront artisanal fishworkers everywhere: the dispute is between industrial and artisanal interests rather than between Northern and Southern artisanal fishworkers. See Chanteau, Jean-Pierre, "Devil in Deep Sea Waters", *Down To Earth*, 4(18):31-33, 29 February 1996, and Kurien, John, "Teaching the Taught", *Down To Earth*, 4(18):33-34, 29 February 1996.

3 The judgement said that all aquaculture farms, shrimp industries, and shrimp culture ponds within the Coastal Regulation Zone (CRZ) should be demolished and removed before 31 March 1997. The aquaculture lobby is strong and has many supporters in government. The Ministry of Agriculture attempted to push a bill through Parliament which would have set up an Aquaculture Authority to review existing shrimp and prawn farms and formulate guidelines for their construction and maintenance. The Ministry of Commerce has also been trying to propose legislation to include aquaculture among the activities exempt from the restrictions of the CRZ.

4 It is estimated that at least 200,000 traditional boats and 35,000 small mechanised vessels fish in 165,000 sq. km. of coastal waters. The Central Marine Fisheries Research Institute in Kochi indicates that the current annual production of coastal fisheries is 2.5 million tonnes, and that the coastal resources are "fully exploited". Reported by Niyanand Jayaraman in "Fishing in Troubled Waters", *Humanscape*, May 1996, pp. 22-25.

A Movement

This ability of the fisheries "movement" to demonstrate a united front when necessary is due to various factors: strong leadership, collective action, shared vision, enormous commitment, skillful mobilisation, and theoretical understanding. It also reflects the ability of the leadership to place local problems within a sound understanding of global and regional macro-economics and to communicate this perspective effectively within the movement and without. Thus, it has been possible to build campaigns that are founded on a solid grassroots base and a thorough analysis of the issues. The aquaculture campaign is an example of such a comprehensive approach, where the link between industrial aquaculture and industrial fisheries was elaborated to the public and policy makers in the course of the campaign.[5]

Strengthening the Movement

Workshop participants said that networking among different organisations of fisherworkers and fishing communities is crucial for strengthening the movement. This is especially important because the resource in question is mobile - using it sustainably requires effective co-ordination and co-operation among different groups of fisherfolk. Organisational development work in terms of formation of co-operatives, improving the position of women in fisheries, leadership training, education on the nature of the resource base, and capacity development for effective participation in resource management and development are also needed, to strengthen capacities and build confidence.

That there are internal conflicts of interest within the movement is clear, the most obvious one being between "artisanal" fishworkers who have traditional boats and "commercial" fishworkers who have small mechanised boats. The identification of a common threat, such as large deep-sea vessels, brings these two groups together, temporarily.[6]

Maintaining Solidarity in the Face of Technological Advance

Perhaps more worrying to the movement and certainly to the workshop participants were the apparent negative externalities within small-scale fisheries itself. A prime example of one such contradiction is the effect of technology. Technological improvements that benefit one group of workers may harm another group or the environment - this is so even when the level of technology is low but increases, perhaps exponentially, as the technology becomes more

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[5] In Shiva, 1996, *op. cit.*, p. 18, Kurien points out that fish meal provides the crucial link between industrial aquaculture and industrial fisheries, with global shrimp aquaculture consuming 180,000 tonnes of fishmeal in 1988, derived from an equivalent of 900,000 tonnes wet-weight fish. It is projected that the demand for fish meal in the year 2000 will be on the order of 1.1 million tonnes (i.e., 5.5 million tonnes wet-weight fish or almost double the current total marine fish harvest in India).

[6] The threat that prompted this truce can best be understood in light of the fact that the Indian Ocean is the only ocean where fish availability has not been reduced. Other oceans have suffered a depletion of fish stock in the wake of factory trawler operations. For statistics, see "Fish Issues", *Down to Earth*, 5(9):60, 30 September 1996.

sophisticated. Over-capitalisation of technology puts tremendous strain on the resource base. Since technological improvements are being made almost continuously, it becomes very difficult to keep workers united. As mentioned in another context, to the workers, therefore, the face of the "enemy" is not clear and changes constantly. Thus, clarity of purpose and a common vision regarding the future in fisheries development and management becomes very important for the sustainability and dynamism of the movement.

Conclusion

When juxtaposed with the situation in other sectors, the relative solidarity of the fisheries sector and the existence of a "movement" draws attention instantly. Workshop participants were intrigued and questioned the apparently unique characteristics of the sector. Why is there a fisheries movement? It is a question well worth serious investigation, as there may be extremely valuable lessons in strategy for other sectors.

To a certain extent, one may argue that there is less economic and social differentiation among fishworkers as a group than among agriculturalists or rural industrial workers as a group. The distribution of the resource that the fishworkers rely on is continuous. The vagaries of the sea affect everyone.

These special features notwithstanding, it must be noted that the fisheries movement has benefited by:

- strategic planning;
- upscaling of activities;
- connections with fishworkers' organisations in other parts of the world (and understanding the reason for the influx of joint ventures from these exchanges);
- linking local campaigns to macro-economic and ecological issues; and
- successfully avoiding the attention of politicians in the infancy of the movement. ■

COPING STRATEGIES IN DISASTER-PRONE AREAS

Two case studies of coping strategies of people in the wake of earthquake (Marathwada) and flood (Bihar) provided the starting point for discussion in this session. Because of the overwhelming role played by government in both cases, the debate centred around this role and that of NGOs.

In the immediate aftermath of a disaster, when the requirement for emergency and relief services is most urgent, clearly, only the government has the capacity to fulfil the need. There was no debate on this point. In pre-disaster and rehabilitation phases, however, workshop participants felt that the role of the government should be one of strengthening community capacities to cope with disaster and facilitating communities to undertake rehabilitation work themselves. At the moment, the role being played by government often creates dependency within communities and exacerbates internal disparities, largely because of the way relief and rehabilitation activities are handled.

Strengthening Community Institutions

In order for relief and rehabilitation work to be done differently, community structures (e.g., village-level groups) for managing relief resources should either be established or strengthened in areas that are prone to disaster. After the disaster has occurred, during the relief phase (the length of which would depend on the intensity, extent, and type of damage sustained), the relief resources would thus be in local hands, decreasing the chances of these essential commodities falling in the hands of special interest groups. At the same time, dependence on the government would be reduced. The experience in Marathwada was that the manner of relief distribution vitiated the atmosphere of community cohesion that prevailed immediately after the earthquake. Also, the scale of the government's operation was such that its pattern tended to shape the programmes of NGOs and international NGOs, and completely overshadowed community involvement.

After the relief phase, communities should have primary responsibility for rehabilitation work - it could be part of the rehabilitation process itself. The role of government (and NGOs) would be to facilitate communities' recovery by providing material assistance, technical support, access to credit, and information. This would increase accountability in the rehabilitation phase, while helping the communities get back on their feet by providing employment, and the satisfaction of seeing their world rebuilt through their own efforts and in line with their own wishes.

Disaster Preparedness

But the most important part of the work, to ensure the "disaster-preparedness" of communities, would occur well before disaster strikes. In areas prone to disaster (cyclone, flood, earthquake, drought, etc.), there should be a systematic programme to inform communities of:

- the likelihood of disaster;
- the expected pattern and extent of damage;
- evacuation plans, if any;
- specific responsibilities of individuals in the community;
- the authorities and organisations to approach for specific types of assistance;
- the emergency services that will be available.

Disaster preparedness work has been undertaken in some parts of the country (e.g., cyclone-related work in coastal Andhra Pradesh and Tamil Nadu) but this does not represent a systematic, nation-wide effort.

Most communities residing in disaster-prone areas have evolved coping strategies that have withstood the test of time. Concomitant with the weakening of the rural economy, most of these strategies have been eroded, as social relationships have changed, land tenure patterns have altered, natural resource management regimes have been modified or replaced, and people's expectations of government and external agencies have changed. There is much of value, and much to be learned from these traditional coping strategies, however, and the workshop participants urged that immediate attention should be given to reviving these strategies.[1]

The need for research was stressed not only in reviving these strategies but also in strengthening them via experimentation, incorporating modern knowledge and methods where applicable. Two areas of work identified for special attention were research on appropriate agricultural practices and architectural innovations. It was suggested that a systematic study assessing traditional building technologies should be done in different regions. Such a study should be followed by experimental work to develop improved architectural designs and techniques, keeping in mind the characteristics of the disaster(s) to which a particular region may be prone. It was emphasised that such work should be undertaken in advance of disaster actually striking, and the results should be made widely available. Dissemination of information is one vital function that NGOs can fulfill in disaster-prone regions. The sparseness of NGOs on the ground in some disaster-affected areas was noted.

Further, participants suggested that the process of reviving coping strategies could be enriched by organising exchanges among communities living in different regions but faced with similar problems. For instance, it was suggested that those living on the flood plains of Bihar could learn a great deal from those living in north-eastern states who cope with the annual flood waters of the Brahmaputra.

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[1] Of course, not all coping strategies may be positive. In an analysis of responses to drought, Vasavi points out "the development of involuted forms of economic and social oppression... Covert forms of bonded labour, child marriage, the practice of dubious religious rites, etc., are activities which have gained strength and are revived as 'drought management' strategies." See Vasavi, A.R. "Bureaucratization of Drought Conditions: A Critique of Policies", *Lokayan Bulletin*, 12(3):15-29, 1995.

Learning from History

Stressing that many disasters are, in fact, manufactured by humans, a case was made for the importance of studying history. Considering the number of rivers that flow through Bihar's plains, the flatness of the terrain, deforestation upstream, and haphazard construction of roads and railways (which obstruct drainage), flooding is inevitable. This fact has been accepted in the past and lifestyles adapted to the annual inundation. This adjustment was made by all, regardless of caste, creed, or class, and functioned on the basis of co-operation. The old embankments on the rivers are low (3-5 feet), and designed to be over-topped and breached when the flood waters reach a certain level. The Damodar River in West Bengal, for instance, has such embankments. People would create a breach if the river did not overflow itself because their agricultural cycle depended on the silt, the excess water (for paddy cultivation), and fish fingerlings. Generally, the flooding resulting from the breaching of low embankments was less severe, less disruptive, and within the accommodative capacity of communities.

The high and continuous embankments that are now in place have aggravated flooding since they are undermined by the huge load of silt that the flood waters carry. The quick accumulation of silt has raised the height of river beds, preventing tributaries from discharging their waters into the main river, and causing other problems like seepage, waterlogging, and obstruction of the drainage of rain water.[2] It is estimated that today there are 3,465 kms of embankments in Bihar. Whereas 25 lakh hectares were flood-prone in 1954, 71.6 lakh hectares were flood-prone in 1995 - after an expenditure of approximately Rs. 700 crores in flood control programmes (mainly the construction of embankments).

The perception of risk and hazard on the part of local communities is clearly very different from that of government, and the solutions implemented by the government have created newer and worse problems for communities - water logging, spread of diseases like malaria and kala-azar, more frequent and destructive flooding. In the final analysis, probably only the contractors building the embankments, and those related to these businesses have benefited from this exercise in disaster control.

"Third Crop"

The tragic upshot is the creation of groups of "environmentally handicapped" people, who have no access to resources but are exposed to a series of environmental hazards of human making. Groups like the Barh Mukti Abhiyan are struggling to reverse government policy on flood control, which to date has ignored history and the accumulated wisdom of local people.

Overall, the conceptualisation of disaster, typified perhaps by the conceptualisation of drought, has placed disproportionate emphasis on natural phenomena (e.g. inches of rainfall) and has paid too little attention to the social conditions in which disasters are reproduced, and to the ecological specificities of different regions. This technocratic, bureaucratic approach has not

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2 Dogra, B., "More Floods with Flood Control", *Economic and Political Weekly*, 3 May 1997, pp. 933-934.

only failed to lead to a holistic understanding of disasters, their causes and impacts but also resulted in relief measures that have become a recurring feature of the rural economy. One participant remarked that relief work is the "third crop" in Bihar; likewise, in most disaster-prone areas, programmes such as the Jawahar Rozgar Yojana have become seasonal sources of employment.[3]

Conclusion

While there is no disagreement that in the immediate aftermath of a disaster, the government is the only entity (with international NGOs, perhaps) capable of providing emergency relief services, the roles of government, NGOs and community institutions before and after disaster need re-consideration. In disaster-prone areas, the emphasis should be on building local capabilities and strengthening community institutions so that they are both better prepared for disaster and able to manage rehabilitation activities. Research, information dissemination, training, and infrastructure development are all important components of improving disaster preparedness of communities. In the rehabilitation stage, government and NGOs can hasten community recovery by providing material assistance, technical support, access to credit, and information. ■

[3] Vasavi, A.R., *op. cit.* See also P. Sainath, *Everybody Loves A Good Drought*, New Delhi, Penguin Books, 1996, p. 317.

RECOMMENDATIONS

General

- The Right to Livelihood, as an integral part of basic needs, should be recognised as a basic human right, alongside existing constitutional rights.
- Development initiatives should not divorce the well-being of the worker from the sustainability of the resource base on which the worker's livelihood depends.
- Alternative indicators of development, reflecting an alternative paradigm of development, are urgently needed. These indicators should focus on issues of equity and the qualitative aspects of development, such as distribution of, access to, and control over resources; quality of work; and quality of life.
- An immediate systematic exploration is necessary of
  - the problems and potentials that the ongoing process of globalisation presents for the rural poor.
  - the status of Common Property Resources (CPRs) under the new economic regime.
  - existing local natural resource management systems.

Institutional Concerns

- The strengths of existing institutional arrangements intended to facilitate sustainable livelihood strategies (e.g., land management practices, producer co-operatives) should be identified and supported.
- Where people have ceased to look upon formal institutions as viable and useful organisational structures, it is necessary to lobby for changes (e.g., co-operatives) in order to make them effective.
- Exchanges among communities in different regions who face similar struggles may help in the process of reviving indigenous knowledge, coping strategies for responding to recurring hardships, and natural resource management regimes.
- Emphasis must be placed on capacity building within communities to deal with their own problems.
- The importance of building a mass base and engaging the political system cannot be overstated, if large-scale change in the economic and social order is the goal.
- A great deal can be learned from cross-sectoral alliances, not by replicating strategies from one sector to another but by studying each other's experiences and exchanging insights regarding strategy, negotiation techniques, political advocacy, mobilising and organising people, securing media and public support, etc.
- Networking within and across sectors remains a key activity and necessity.

Agriculture-based Livelihoods

- Reviving the productivity of rainfed lands should receive top priority from communities, NGOs, and the government, considering the implications of land alienation for the status of CPRs, the condition of the water table, the value of land in surrounding areas, and the sustainability of people's livelihoods.

- Innovative arrangements, collective decision-making, and resource-sharing to make land and water accessible to those who lack productive assets can play an important role in reviving rainfed areas. This recommendation is especially relevant for creating new opportunities to enable women to participate more equitably in the rural economy.

Rural Industry

- The role of external agencies, whether government or NGOs, in rural industries should be supportive and not managerial.

- NGO intervention in rural industry should be based on a clear vision of long-term objectives and sound business sense. Creating linkages to government resources and information (rather than becoming the conduits for these) could be part of the supportive role that NGOs can play.

- NGO's and development workers must prepare to deal with the implications of the probable reduction and/or transfer of central government schemes such as DWCRA and TRYSEM to state governments. To date, these schemes have provided opportunities for assisting fledgling small-scale rural enterprises to establish themselves.

Fisheries Sector

- Networking among different organisations of fisher-workers and fishing communities is crucial for strengthening the movement.

- In the fisheries sector, organisational development work in terms of formation of co-operatives, improving the position of women in fisheries, leadership training, education on the nature of the resource base, and capacity development for effective participation in resource management and development is also needed, to strengthen capacities and build confidence.

Disasters and Livelihoods

- In the immediate aftermath of a disaster, when the requirement for emergency and relief services is most urgent, clearly, only the government has the capacity to fulfill the need. In pre-disaster and rehabilitation phases, however, the role of the government should be one of strengthening community capacities to cope with disaster and facilitating communities to undertake rehabilitation work themselves.

- Community structures (e.g., village-level groups) for managing relief resources should either be established or strengthened in areas that are prone to disaster.
- During the relief phase, relief resources should be in the hands of these community structures, decreasing the chances of these essential commodities falling in the hands of special interest groups.
- In the rehabilitation phase, the role of government and NGOs would be to facilitate the recovery of communities by providing material assistance, technical support, access to credit, and information.
- In areas prone to disaster, immediate attention should be given to reviving traditional coping strategies, and to blending these with relevant modern technologies.
- In areas prone to disaster, there should be a systematic programme to inform communities of the likelihood of disaster, the expected pattern and extent of damage, the evacuation plans (if any), the particular responsibilities of individuals in the community, the system for accessing specific types of assistance, and the availability of emergency services. ■

SECTION II

Note: The opinions contained in the case studies are those of the presenters and do not necessarily represent the positions of Hivos or AME - Editor

LIVELIHOOD-ASSOCIATED CRISIS AND SOCIAL DYNAMISM OF THE SIDDI TRIBAL COMMUNITY

Presented by T.N. Prakash, N. Narasimha, A.S. Anand, and V.K. Arunkumar

The Community Profile

The Siddis are a forest dwelling community of the coastal and hilly tracts of North Kanara district of Karnataka state, India. The Siddis are believed to be negroids. The ancestors of this community are reported to have been brought to Goa by the Portuguese as slaves in 17th century. Later, they migrated slowly towards Karwar and settled in the thick forest regions of Ankola, Haliyal, Yellapur and Mundugod taluks of Karnataka. At present, their population is estimated to be around 15,000. They belong to three major religions - Hindu, Christian and Islam - in the ratio of 35:40:25. They speak Havyak Kannada, Marathi, Konkani and Urdu languages depending upon the area in which they live.

Livelihood Sources

At present, nearly 25% of the Siddi population is engaged in farming, of which about eight percent has ownership right over the land they cultivate; the remaining 17% has encroached on forest land. Nearly, 50% of the Siddis are agricultural labourers and 20% are dependent on the collection of Non-Timber Forest Products (NTFPs). A small percentage (5%) of the Siddi community, mainly educated youth, have become skilled labourers like power-tiller drivers and some have even migrated to cities. Agriculture- and forest-based activities are the main sources of livelihood for a majority of the Siddi community in the North Kanara district. Historical association with local Havyak brahmins and their cultural influences are considered as main reasons for their inclination to agriculture. In the process, Siddis have also adopted Havyak language, food and other cultural habits.

Land Use

Siddis began cultivation by encroaching on forest land or by leasing land from others. The land chosen for cultivation used to be at low elevation, with adequate moisture content for six months of the year and was surrounded by the thick forest. They planted paddy, banana, sugarcane and areca nut. When, in 1974, the land reform process started in Karnataka, many Siddis lost the land they had cultivated traditionally as they could not follow the government's formal procedures. But they continued to cultivate the land by squatter's rights and encroachments. In the1980s, the Karnataka State Forest Department imposed a fine on the encroachers. This at least provided legal evidence that land was traditionally cultivated by the Siddis. As a result, some of them secured ownership rights but the majority of them remained encroachers.

However, after the 1980s, the revenue department stopped recording encroachments so even the minimum documentary evidence necessary to fight for regularization was lost. The number

of non-regularised encroachments increased. At the same time, the state government and the forest department started evicting the Siddis and preventing further encroachments. Influenced by various internal and external factors, the Siddis started encroaching even upon lands in upland areas that were unsuitable for cultivation. This has severely affected both ecological security and the livelihood sources of the Siddi community.

Changing Scenario and Crisis

The majority of the Siddi farmers have land holdings of around two to five acres. Although traditional farming practices are largely in use and traditional varieties of the paddy are grown mostly, the shift towards high yielding varieties is slowly occurring. The shift is attributed to the lure of high yields, preference for small white rice grains, inadequate moisture in upland areas and the short duration required for high yielding varieties to attain maturity. However, the new varieties have given rise to problems such as susceptibility to the attack of blast disease, and pests like white ear and sucking bug. Scarcity of water in upland areas and shortage of fodder for animals have further complicated the situation. Similarly, the availability of NTFP has also been reduced over last few years mainly due to change in flora within the forest and surrounding agricultural land. For example, the availability of honey has been severely reduced as intensive cotton farming which uses chemical pesticides in the surrounding agricultural land has affected the formation of honey bee colonies in the forest. Further, the growth of "congress weed" *(Parthenium)* has restricted the movement of Siddis inside the forest. The government's forest policy has had a major impact in preventing tribals from collecting NTFP.

Simultaneously, due to intensive cultivation of areca nut, the demand for daily wage labour has increased in the region. That has attracted outside labour to migrate to this area. But educated Siddi youth have started migrating to city in search of jobs in hotels, bicycle shops and other places. A few educated youth who have tried to secure government jobs have not succeeded as the Siddi community is not included in the list of Scheduled Tribes for the purpose of reservation. Ironically, although the desire for consumer goods like radios, televisions, watches, etc., has increased it is not matched by the purchasing power which has further frustrated the community. A few of them have also indulged in illegal and anti-social activities for acquisition of wealth. The incidence of crime has increased in recent years.

Response to Crisis

The crisis is a result not only of problems associated with livelihood but also related to the changing aspirations, especially of the younger generation, in the Siddi community. Siddis, however, have developed means to tackle it. Some of the developments in such direction are:

- A few progressive Siddis with the support of an Indo-Dutch institute, a Christian missionary and a sympathiser have established the Siddi Abhivruddi Mandli (Siddi Development Council). The main purpose of SAM is economic, social and educational upliftment of the Siddi community.

- Due to the initiation of SAM, a demonstration and a procession was organised with a demand that encroached land should be regularised. As a result, the government has started the process of identification and regularisation of encroached land and a few of the Siddis have been able to secure ownership rights.

- A number of innovative methods have been developed in response to crises faced in agriculture. For example, indicators from surrounding flora and fauna are used to predict the rainfall accurately. Land is prepared for transplantation with ploughs made from the wood of two different indigenous tree species whose bark is hard, alkaloid and bitter and is believed to keep the soil free from various insects and pathogens. Siddis also choose different varieties of paddy to suit the characteristics of the land. In upland areas, where moisture availability is uncertain, a short-duration variety of paddy is planted whereas in low-land areas long duration paddy and leguminous pulses are planted in sequence to use available moisture appropriately.

Siddis follow planetary movements and the lunar calendar in their agricultural practices. The seeds are germinated in one cycle of lunar movement and are transplanted in the next cycle. They use farmyard manure mainly and if the seedlings have modest growth dung is mixed in irrigation water. To prevent the lodging of paddy seedlings during excess rainfall, the upper portion of the paddy seedling is cut 15 days prior to panicle set.

With the cultivation of new varieties, the pest and disease problems have increased. In response the Siddis have developed many innovative pest and disease management methods based mainly on plant and bird resources. For example, to control white ear insects, Siddi farmers walk through the paddy field swaying the twigs of the fish-tail palm in outstretched hands so that white ears drop down into the water. The water is later taken out of the field and mixed with kerosene to kill the fallen insects. Another method used is that a cloth dipped in oil is lit to trap milk-sucking insects. Natural repellents are also used to control pests and insects. The use of natural farmyard manure also reduces the susceptibility of plants to pests and diseases. Siddis predict the attack of such pests or diseases by observing flowering rhythm of certain plants and accordingly take appropriate steps to control them. Similarly, birds are attracted and facilitated to pray on pests and insects in the pre-seed setting stage by providing a T-shaped twig throughout the paddy field. Afterwards, during the seed setting stage, either the T-shaped twigs are removed from the paddy field or gum is applied on twigs to catch the trapped birds. The grain is stored after harvest using neem leaves, cow dung, muddy-pepper stalk and paddy straw.

- Siddi farmers follow a co-operative labour exchange method for various agricultural operations. Even the type of crop is chosen collectively in order to minimise crop loss due to pests and wild boars.

- A translation of an original African play by Chinua Achebe was staged by Siddi youth with the help of a cultural organisation from Shimoga. Further, a cultural program by Siddis was telecast by Bangalore Doordarshan which has generated a sense of confidence, self respect and solidarity among the Siddis.

- Siddis have also jointly established a co-operative marketing society and a rural society. The marketing society purchases Shikakai (*Acacia concinna*) and Antuwala (*Sephindus emerginatus*) at good prices from Siddi farmers. This keeps an effective check on the exploitation by local private contractors. The marketing society has also succeeded in getting a permit to collect NTFP from the forest department for two years. This is considered to be the most appropriate step to assure self reliance. In addition to the marketing co-operative, micro-credit and savings co-operatives have been established in remote areas. At present, there are 28 such rural societies functioning in the region. A small amount is collected from each member and deposited in nearby commercial bank. Subsequently, the members can take loans at reasonable interest rates. These societies are also conducting training programmes in tailoring, kitchen gardening, etc.

Points for Discussion

Siddis have demonstrated a unique potential to innovate constructively in response to "crises" with regard to livelihood resources. However, there are a few constraints which are blocking full realisation of their potential to cope up with the situation. These constraints need policy interventions as they have far reaching implications on both forest conservation and on the socio-economic development of Siddis. About 17% of Siddi families which are dependent on agriculture have not been able to obtain title of the lands that they have been cultivating. This raises the dilemma: which should be given the priority: conservation of forest resources or property rights of the tribals? Here, we wish to deploy a concept called "positive encroachment" to defend use of land by Siddis as positive, reasonable and sustainable as against negative, beneficial and commercial exploitative use by other encroachers. But it remains to be seen whether the Siddis who have managed to get their encroachments regularised, will eventually sell these lands. The new economic policy, however, may help in widening the market for non-timber forest and other products likely to emerge from the indigenous knowledge base of the Siddis. But to what extent the market will provide information on preferences and prices to such indigenous groups and thereby determine their share, is yet another question.

It is proposed here that the Siddi community should be included in the list of Scheduled tribe which will provide them with ample opportunities to demonstrate their abilities in the sphere of education, employment and other development programmes.

Discussion Notes

Questions raised included: Does the case study describe innovative agricultural practices and a specific form of livelihood of the Siddi community which is still comparatively balanced or is the present form of agriculture a response to a particular crisis? Will this capacity to innovate, adapt or adjust be lost in a changing situation where market forces are strong? Do communities like Siddis maintain their traditional subsistence agriculture out of compulsion and due to lack of alternative? If it were possible to introduce irrigation and hybrid varieties would the Siddis still continue with the existing agricultural pattern?

Although, at present, the question is the survival of the Siddi community, is it possible that the continued encroachment and market infiltration will result in land use conversion to cash crops?

The notion of 'encroachment' versus 'positive encroachment' remained controversial. A few participants objected to the word 'encroachment' whereas others felt the term 'positive encroachment' is contradictory. A query was raised regarding the amount of forest land on which the Siddi community has encroached as compared to incursions of the other encroachers. Is there a difference between encroachment by small groups like the Siddis, who are struggling for their own survival and livelihood, compared to encroachment by rich farmers and commercial interests? It was suggested that both the kinds of encroachments should be discussed further in the context of their long-term environmental implications. ■

KHUDAWADI: A CASE STUDY OF EFFORTS TO ORGANISE WOMEN FOR BIO-RESOURCE DEVELOPMENT

Presented by Seema Kulkarni

The Community Profile

Khudawadi is a village of 400 households in the Marathwada region of Maharashtra. It lies on the Deccan Plateau and receives an annual rainfall of 750 mm (25 inches). The region has a high population of Dalits. In Khudawadi village, 20% of the families are landless farmers and the majority of the remainder are marginal farmers surviving on rainfed agriculture.

The village has a 6.95 kms long, tail-end minor irrigation canal which has 12 outlets. Out of the available command area of 600 hectares, 270 hectares are irrigated as per the cropping plan of the irrigation canal. Farmers from the command area have formed a Water Users' Association, which has 150 members. There are 260 land holders, totally, in the command area of the minor canal.

The Project Background

This case study is a joint project of the Tata Institute of Social Science and CASAD - Center for Applied Systems Analysis and Development, a technical support group based in Mumbai. The project was emerged from the association of the author with the groups like Mukhti Sangha Movement which are fighting for drought eradication in Maharashtra. One of the demands of the Sangha was equal water rights for women. The Sangha had also critically appraised the Employment Generation Scheme of the Maharashtra Government. The author was also part of the Parithakta (deserted women) movement which demanded land for housing for women and ration cards in their names. Eventually, all the three demands, water rights, access to land and ration cards for women were taken up by the State Women's Commission. At the same time, the Dalit movement was looking at the issue of land redistribution critically as it realised that much of the land given to marginal section was lying fallow due to lack of resources to develop it. It was in this context that the project was born; the aim is to generate income for the women while reviving fallow land.

After a few meetings with the Water Users' Association, it was decided that each landholder at the time of enrolling as a member would be considered as one family and each family would receive water to irrigate one hectare. It was also decided that 15% of the available water would be allocated to landless women in the village. Responding to this decision, landless women further demanded that a piece of wasteland should be allocated to them on a produce-sharing basis. The women specified that they would follow alternative farming methods on the land allocated to them.

Accordingly, a group of 10 landless women, the majority of whom were the sole working members of the families, were given 10 hectares of waste land which was privately owned by 5 or 6 farmers. The land was given on a 15 years lease on produce-sharing basis.

A memorandum of understanding was signed by the parties concerned which contained the following conditions: no rent will be paid to the land owners during the lease period but 40% of the produce from the land will go to the owners; 40% of the remaining produce will go to the landless women's association; and the remaining 20% for infrastructure development. The sharing of produce will start after 5th or 7th year of the cultivation but 40% of the fodder will be given to the owners from the second year. It was also decided that 10 gunthas or 1/4th acre of the land would be given to the landless women's association for experimenting with "nature cultivation".

Present Status

In the first year of cultivation on waste land, species having fruit, fodder and fuel value were planted on three acres while earth work for soil and water conservation was done on about five hectares area. Fortunately, it was a year of good rainfall and there was some water stored in the dam. This was also the first year that the Water Users' Association was functional. The women's group was able to register their right over the water. From the next year, the group may decide to sell the water.

Further, the association of landless women has initiated the procedure to register itself. The land is being prepared for future plantation by increasing vegetation cover and planting nitrogen- fixing species. Organic manure for future use is being prepared on site.

On the 1/4 acre of land that the group has for experimental, intensive farming, a regular supply of irrigation water of 1000 litres/day has been assured. The experiment is based on the work of Prof. Dabholkar and his Prayog Parivar in Maharashtra. The basic premise is that the nutrients extracted by plants from the soil have to be returned to the soil. Unlike "natural farming", this method is called "nature farming". It emphasises conscious understanding and adoption of principles of the nature in farming methods. In contrast, the concept of "natural farming" promotes relying upon nature to take care of everything.

Simultaneously, the association has started a credit programme to increase income generation activities. After 6 months of pooling money, the credit group has started giving loans. Women have now bought milch cattle and goats since they have access to fodder from the jointly controlled wasteland.

In Summary...

Despite the fact that Maharashtra has the highest number of irrigation projects in the country, 35% of the total land area of the state has been declared as drought prone. This means that 40% of the state population is affected. The total land area under cultivation is a little more than two crores of hectares. Of this, irrigated land comprises only about 26 lakh hectares (13%). Ironically, only 21.5% of the irrigated land is under sugarcane but it receives about 60% of the irrigation water. The irrigated belt is passing through serious ecological, economic and socio-political crisis due to excessive and unbalanced use of additional inputs. On the other hand, the drought prone, low external input lands have been over-exploited by people trying to meet their

survival needs. Consequently, women in rural areas are the worst affected as they are largely dependent on the common property resources.

In these circumstances, **granting rights to productive land, access to water and developing the knowledge base of the most marginal women is a positive step towards achieving food, fodder and fuel sufficiency and security.**

Discussion Notes

Notwithstanding the fact that the project has involved the most marginal group of landless women and has successfully secured water rights for them, a major doubt was raised regarding the structure of the project. If 40% of the produce goes to the land owner who basically owns fallow land and if, at the end of the fifteen years, the land owner gets productive land without having invested anything, then, for whom is the organisation working? In response, it was clarified that first of all there is no common property land available in the village and, secondly, the land is being leased from resource poor farmers and not from rich farmers. They are not paid any rent for lease, hence 40% produce-sharing instead of rent is justified. The status of the land after the lease period could be negotiated, but it is an open question at the moment.

Further, it was asked whether giving wasteland to people who are landless creates more wasteland, since marginal land is being given to marginal people who have very little resources to develop it. In spite of high labour inputs, the returns they get are very poor. On the other hand, the reality is that fertile irrigated land will never be given to landless groups. Experiments such as the one at Khudawadi can provide a model for employment generation schemes of the government which could direct resources in a meaningful way. It was suggested that the manner in which resources are released by the Government for the schemes meant for the livelihood or employment of rural poor should be discussed. ■

A NEW THREAT TO LIVELIHOOD IN RURAL TAMIL NADU: A CASE STUDY ON LAND ALIENATION

Presented by T. Fatimson

In the last five years or so, large stretches of rainfed land under cultivation in the state of Tamil Nadu have been converted into captive monoculture plantations of teak, cashew, coconut and mango. Huge chunks of land are not only purchased from small and marginal farmers at throw-away prices but lands that have been given to socially and economically deprived sections in Bhoodan and Panchami are also being bought for the purpose. In some places, common property land like *porambokes*, grazing land and even temple land are being usurped. Shepherds, women and marginal groups who subsist on the common property resources are the main losers.

Corporate giants and NRI companies promoted by chartered accountants, company secretaries and financial analysts are said to be in this trade. These companies raise large sums of money from public finance institutions and from the urban rich for investment in monoculture plantations. It is also reported that these companies work in nexus with revenue authorities, local party politicians, powerful elites and public financial institutions like NABARD. In many cases, the purchase deal is made in dubious names and in few cases under the threat. High capital intensive technologies like drip and sprinkle irrigation methods are used. They seem to have been using satellite imagery to locate ground water and to determine the appropriateness of the land for purchase. The registered price of the land is hiked several times in order to raise money from financial institutions.

Background

The globalisation and liberalisation policies of Government support transfer of land to private sector, NRI and transnational companies for the purposes of monoculture plantations, aquaculture and floriculture farms. The union minister for waste land development had declared in 1994 that a subsidy of 25% would be offered to farmers and agro-firms for encouraging wasteland development (*Economic Times*, 3.12.94). Similarly, addressing the parliamentary consultative committee, the minister of forests and environment said that the Government had decided to involve industry in afforesting degraded areas, to expand green cover and meet rural fodder and fuel needs. He also said that this step was intended to open up avenues for rural employment (*Tribune*, 5.12.94). It was proposed that a company that funded afforestation of at least 100 hectares would be entitled to all the trees planted on 75% of that land (*Indian Express*, 12.1.95). Subsequently, large corporate sector and NRI companies moved into countryside in Tamil Nadu, Kerala, Karnataka and Andhra Pradesh to set up such ventures.

Following are illustrations of such undertakings in rural Tamil Nadu:

1. Sterling Tree Magnum, Madurai

Rasingapuram is a small village in Bodi Taluk of Madurai West district. The village has 650 acres of cultivated land of which more than 100 acres is rainfed. The village has a temple which is visited by people from six or seven nearby villages on festival days. During the lean season, the rainfed land is used for grazing. An approach road which cuts through the rainfed land provides access to the surrounding villages.

In mid 1993, agents from Sterling Tree Magnum first purchased 50 acres of land and slowly expanded the company's holdings by buying 350 acres of land. It was reported that the land was bought by dubious means.

Subsequently, the purchased land was fenced including the approach road and temple. After consistent resistance from villagers access to the approach road and temple were provided. The land lies fallow now. Grazing is stopped and entire area looks like a desert.

2. Bheema Plantation, Chidambaranar

Sathankulam taluk of Chidambaranar district was once known as mini-Kerala for its lush green landscape and diverse crops. The green revolution made all the difference and today this area is reeling under acute shortage of water. New crops like betel leaf, new dwarf rice varieties and coconut plantations require huge amounts of water. Consequently, ground water in the region has dropped to a dangerous level. The entire taluk depends on private operators for drinking water, who charge 50 paisa or 75 paisa per pot of water. Coconut plantations are withering and betel leaf, banana, paddy and drumsticks have become crops of the past. Of the total land area of 36,341 hectares, only 7764 hectares are being cultivated and rest of the land is lying fallow.

An NRI company called Bheema Plantations has bought 1600 acres of land spread across four villages. Cashew is planted in 400 acres of which 200 acres are Bhoodan land distributed to ST/BC landless farmers.

These moves were resisted by the farmers and there were clashes between the farmers and the company staff. In one village, all the survey markers laid down by the company were uprooted. Nonetheless, the company is going ahead with the plantation.

3. Star Valley Plantation, Dindigul Anna

Star Valley Plantation has bought about 4000 acres in seven villages in Batalagundu taluk of Dindigul Anna district. The company has planted cashew in 400 acres of which 100 acres are part of the degraded hilly land previously used for grazing by villagers.

4. Zebra Plantation Ltd., Neellai Kattabomman

ZPL purchased 500 acres of land at throwaway prices from small and marginal farmers. However, land transfers were registered mentioning much higher purchase prices. A huge loan from NABARD was mobilised and coconut was planted. After four years this company could not give adequate return to the investors. It was closed. The land now lies fallow.

Factors Causing Land Alienation

Tamil Nadu has 60 to 65 lakh hectares of arable land of which 40 lakh hectares are rainfed. Irrigated land area in the state is declining by about 10% every year. As a result, roughly 50% of the population depends upon rainfed farming. Given the monsoon characteristics of Tamil Nadu, there is a scope for two rainfed crops a year, provided soil quality and moisture content are conserved. The inability of poor farmers to care adequately for the soil is the main reason that rainfed farming has become a burden for them. On the other hand, very little institutional support is made available to farmers with rainfed land. Government schemes meant for small farmers with rainfed land hardly reach them. All these factors have contributed to the repeated failure of rainfed crops, making farmers lose confidence in their marginal holdings. Most of the small and the marginal farmers, thus, either keep their lands fallow or sell them and migrate. This provides an entry point for companies interested in mono-cropping.

Points for Discussion

It was suggested that the situation can be confronted by two means. One, people can be made aware of the socio-economic and ecological consequences of land alienation. Second, alternative land use methods can be evolved based on efficient use and management of available land, water, plant, cattle and human resources.

Discussion Notes

A lively debate followed the paper presentation which went beyond the content of the paper. Various issues raised were: How real are the claims, made by such companies, of the returns on investment? Is there a legal basis to challenge these claims of the promoters? What would be the value of a media campaign to make the investors, who are mainly middle class, aware that their money is not safe as it appears to be and also that the propositions are not as environmentally friendly as the marketing and advertising make them appear?

One of the participants responded that the legality of the land transaction is not questionable in a court of law because the title deed is being transferred voluntarily. Besides, investors mainly interested in the return on their investment, are not usually concerned whether trees are actually grown or not, or whether the claimed volume of wood is generated or not. Although the environmental claims by the promoters as part of their marketing strategy appeal to the middle class, hardly anybody bothers to confirm whether the trees are grown or not. Possibly, the promoters may run the scheme by simply circulating the money or buying land and letting it

appreciate, selling it and showing the profit as 'other income' in their books, a ploy which cannot be challenged legally.

The more fundamental question was raised regarding the voluntary transfer of land. The term "voluntary alienation" can be self-contradictory as much of the land being alienated in this way is under permanent fallow due to farmers' lack of resources to develop them. Though the land is sold voluntarily, the sale occurs under pressure of forces that are not in the control of farmers. Nevertheless, the situation arises that there is a voluntary purchase and voluntary sale neither of which can be challenged though such land alienation severely affects livelihood of the local population and also the ecology of the region. Scientific knowledge of how the livelihood of the local population is affected by land use transfer for plantation may help to build the legal case against such land transactions.

Another area of concern was how presently unproductive and fallow land can be developed. Finally, a question of a far more serious nature was raised: what if the corporate sector actually wants to begin serious production activities? The real threat to rural livelihoods may not lie in relatively small investment schemes but in possibility that large corporations or NRI companies may purchase land for large-scale plantation, floriculture or animal husbandry. ■

TOWARDS FOOD SECURITY OF THE POOR

Presented by K.S. Gopal

Past

Narsamma is a poor woman living with her three children in Mamadigi village of Zaheerabad taluk in Medak district of Andhra Pradesh. Medak is one of the poor regions of the state. It has low rainfall and agriculture is mainly dependent on rains. Narsamma owns two acres of red soil land in the village. She used to grow rainfed crops like jowar with an inter-crop of red gram. The produce, which included lot of greens, was used for household consumption and as fodder for cattle. She and her husband, when he was alive, used to work in the fields of other people and receive grain in return. Their daily diet consisted of mostly yellow jowar and occasionally white jowar along with dal, onions and buttermilk. Most of the jowar was grown in the village and dal was the inter-crop. Milk purchase centers were not in existence and milk in the form of buttermilk was given free to neighbours. In this way, even the wage labourer had access to a variety of foods which made for a balanced diet.

Traditionally, dry land farming did not use chemical fertilizers or pesticides. Jowar was grown in two seasons depending upon soil conditions. White jowar was grown on good quality land with irrigation facilities after the rainy season. Yellow jowar was grown during the rainy season and on poorer quality land. Although hybrid varieties of jowar and chemical fertilizers were introduced and promoted by the Block Development Officer, people did not adopt them and the cattle did not like the straw from such crops.

Present

Some years ago, the state government announced that it would supply 25 kgs of rice per family at a price of Rs. 2 per kg. Along with rice, the dealer was supposed to supply other commodities like oil, kerosene, sugar etc., at less than market prices. The scheme was called coupon rice and those having ration cards were eligible for the supplies. The coupon rice was beneficial to Narsamma as part of her household requirement came at a low price. Earlier, rice was eaten on occasions like festivals but now rice became cheaper than the jowar and slowly it became a part of Narsamma's regular diet. She found that cooking rice requires less fuel and is easier than making rotis.

However, purchasing coupon rice was not free of hassles. The dealer stocked rice as per his convenience. When the dealer's rice stock actually arrived, Narsamma might or might not have the money to buy it. The dealer would not keep the stock for more than two or three days. Narsamma began to borrow money from people who did not have ration cards, and give them half the rice that she bought. In this way, even the rich and money lenders benefited from the coupon rice scheme. But worse was yet to come. The government increased the price of rice from Rs. 2 per kg to Rs. 3.50 per kg and the quantity of rice given per ration card was reduced from 25 kgs to 15 kgs. This quota was not sufficient for Narsamma to have even one meal a day. In addition, the dual market system was detrimental to the poor as the prices in the open

market, from which the poor have to buy the bulk of their other requirements, are higher. Thus, Narsamma had to pay higher prices for other requirements than she would have had to pay in the absence of a dual market.

Narsamma doubts whether the scheme can be sustained for long. Her anxiety increases as wages are now paid mainly in cash and very little food crops are grown.

Towards Change

Mamadigi has a women's sangham initiated by a voluntary organisation. Narsamma is a member of the sangham. The sangham has 62 members mostly from poor families of all castes and religions. In one of the sangham meetings, a discussion began on the decline of land under jowar cultivation as a result of a shift towards cash crops like sunflower, cotton and groundnut. The members felt that the shift towards cash crops is occurring mainly on irrigated lands, while the crop production on rainfed land has decreased because much of the land has become unproductive and/or kept fallow.

The discussion then moved to the reasons for the decline in cultivation of cereals on rainfed lands, which is the only possible and real source of food security in rainfed areas. The main reasons for the decline of rainfed agriculture, it was felt, are expensive inputs and low returns. In addition, it was becoming increasingly risky. Further, increasing sugarcane cultivation in the area has pushed up prices of necessary farm inputs beyond the reach of farmers engaged in rainfed cultivation. Hence, farmers began to find subsistence farming impractical and uneconomical. The result was that the best land where groundwater was available was put into sugarcane. Farmers tried to put the moderately good land in sugarcane as well, and the poor rain-dependent land was kept fallow.

At this point, the sangham decided to visit the nearby village of Ibrahimpur where an experiment to cultivate dry crops on fallow land has been undertaken successfully under the leadership of a women's sangham. The leader of Ibrahimpur women's sangham explained that 200 acres of the fallow land was required to meet the jowar requirements of all the rice card holders in the village, assuming an average yield of 300 kgs per acre. This requirement of land was just one third of the fallow land available in the village. In the first year, 46 women came forward to participate in the scheme and a total of 60 acres was cultivated. The land identified for the programme had been kept fallow between three to ten years. Depending on the land conditions, ploughing by tractor/bullocks was taken up. Two tractor loads of farm yard manure were applied to each acre of land. The manure was procured from Ibrahimpur and neighbouring villages. It was agreed to inter-crop sorghum, red gram, pundi and bebbarlu. Traditional jowar seeds were used whereas seeds were purchased from the market for inter-cropping. The seed application was done by farmers themselves and their families and Rs. 100 was given as wages for weeding, although much of the weeding was done on collective basis. Half a bag of fertilizer was also provided per farmer.

On the average, the harvest was three bags of jowar and more. Half a bag of jowar was given for the labour involved in harvesting and a quarter of the produce to the persons undertaking

the ploughing. A loan of Rs. 900 - Rs. 1600 was given to each farmer depending on the requirement to undertake cultivation. All loan repayments were made in the form of grain which was purchased by the village PDS at the prevailing market prices. Thus, nine tonnes of jowar was procured and 65 tonnes reached the poor as wages for labour and as payment for the services. The sangham also collected five quintals of jowar seed. The fodder was sold at high prices as the demand for fodder from traditional jowar variety is more.

The Ibrahimpur sangham intends to bring land being kept fallow under cultivation completely, to reduce the use of chemical fertilizer without affecting production, and to include pulses and firewood in the scheme. After seeing the Ibrahimpur experiment, the women of Mamadigi sangham compared the coupon rice scheme with the Ibrahimpur scheme and concluded that:

1. The rice coupon scheme depends on capital intensive farming on irrigated land. These areas eventually become saline and waterlogged, leading to permanent loss of highly productive land.

2. As opposed to that, the proposed scheme is based on extensive farming using poor quality land. It uses local resources, rain water and in the long run makes the unproductive land provide food security to poor. The rice coupon scheme operates through the centralised machinery of the state government; hence, the management and implementation costs are very high. Since capital intensive farming requires access to credit, only the rich can afford it. Such a farming system is inevitably mechanised and male-dominated. In the long run, women are displaced from the production process. In contrast, the proposed scheme is best managed in a decentralised manner, with minimum capital necessary. Women can play a very active role in the organisation of the proposed scheme.

Discussion Notes

The pros and cons of PDS were discussed at length. On the surface, PDS would seem to be a solution for the food problem. The PDS strategy, however, has a negative effect on the production and availability of cheaper grain. The rice coupon scheme in the PDS originated with the increased production of rice as a result of technological interventions in the irrigated lands. In a nutshell, the rice scheme is not meant to benefit the poor; basically, it benefits the rice lobby.

Further, not only does the rice scheme of PDS generate dependency among the rural poor, the dual market system does not benefit them. Since the PDS provides only a limited quantity of the rice, the poor have to buy the rest from the open market. The prices in the open market have gone up as a consequence of procurement of part of the rice harvest at lower prices.

A counter view that PDS has played a positive role in improving nutritional standards of the rural poor - in Kerala, for instance, where the level of political mobilisation and organisation is high - was also expressed.

The discussion then focused on what makes farmers engage in agricultural activities. It was expressed that one must not lose the sight of the intrinsic joy expressed by the farmers which

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is the core value that sustains people in this sector. It is not only market or profit that can motivate people to take up productive activities. Dr. Sudarshan, who has spent fifteen years in the tribal belt, expressed his view that there is a psychological difference between those tribals who are engaged in agriculture and those who have become forest guards. The non-farmers experience a feeling of alienation. But, then, it is also a fact that many villagers would prefer to sell their lands. Love for the land does not develop unless the land becomes productive. Which comes first then: generating love for land to make it productive or vice versa?

In the same context, there was a proposition to differentiate between land as an asset and land as a source of livelihood. Amidst those who buy and sell land as an asset, there is a section of people who are left over, who have no other option but to take up productive activities for the sake of livelihood. Nevertheless, over and above the section of people having land as an asset or land as a source of livelihood there is a large number of landless labourers who do not even have assured source of income and cash to purchase rice from subsidised scheme. How can they be assured a means of livelihood?

Another element that emerged from the discussion was the question of people's control and access to common property resources. In a country like India, where minimum social security has not been achieved, lack of common property land becomes a critical issue for the rural poor. Also, in the absence of minimum social security and since systems like the PDS are not reaching the poor, communities are forced to take action. This kind of argument could also be extended by those who see a decreasing role for state in a context where pro-poor policies are on the decline. It is worrisome that such an argument can be appropriated by people who are very much pro-market.

It was agreed that this is a catch-22 situation in which the state might see an opportunity to throw up its hands, and abandon its efforts. NGOs might unwittingly further the privatisation agenda in the area of social security. Unless livelihood strategies at the village level are strengthened, there are no other means to empower people to fight for their rights to forests, common property lands, and their own lands. The community approach to making land productive can be a way showing that it is possible to reverse the whole process of dis-empowerment. The alternative PDS experiment also shows the promise of livelihood strategies that are based on local resources and needs and do not cater to dominant markets. ■

LOCAL EXPERIENCE SUSTAINS RURAL INDUSTRIES: THE SEWA EXPERIENCE

Presented by Anjana Dave

My family migrated to Saurashtra to work in groundnut fields every alternate year. From 1985 onwards, we had successive droughts. I was pregnant but continued digging earth till the last minute! I went back to work on the 7th day after giving birth. I was the sole earning member in a family of three sons and an aged mother-in-law. My husband had already migrated to Saurashtra. How to feed the family if I rest?

Pusiben - A drought victim from village of Santalpur, Gujarat

Today, Pusiben is not alone. SEWA (Self Employed Women's Association) has organised 40,000 women in this desert area to fight the wrath of nature.

This is a case study of a regional development programme initiated by SEWA and later implemented by locally formed associations. This case study focuses on key principles that affect the livelihood strategies of the rural poor.

Radhanpur and Santalpur are two blocks located on the India-Pakistan border and are part of the Rann (desert) of Kutch in Banaskantha district. The literacy rate in the area is 11% for men and 7 percent for women. The infant mortality rate is the third highest in the state. Rainfed agriculture is the major economic activity and the rains often fail. The people of these villages migrate for six to eight months of the year in search of work. Successive droughts from 1985 to 1989 reduced the economic status of the rural poor from subsistence to survival level.

This was the situation when SEWA first began to work in Banaskantha in 1988. The work began with the extensive field visits and meetings with the village communities, especially women. In the villages, dairying was the secondary economic activity but like agriculture, it was severely subjected to vagaries of nature. The major need in the region was for sustained work and income.

Based on field investigations of existing skills, land and the livestock base, SEWA, with the help of the Foundation for Public Interest, identified income generating activities. The focus was on women below the poverty line, on women marginally above the poverty line, on the socially and economically deprived/disadvantaged, and on victims of disaster. At present, out of SEWA's 40,000 members, about 14,000 women are engaged in sustainable income-generating activities in Banaskantha. The areas of work include:

Activity	No. of Women
Craft	4,200
Eco-regeneration (nursery and plantation)	1,000
Dairying and fodder security	1,200
Minor forest produce collection	1,000
Salt farming	2,000
Water as regenerative input	5,000
TOTAL	**14,400**

An account of the efforts to organise women engaged in two rural industries, handicrafts and gum collection from forests, is given here. Assistance was received from DWCRA (Development of Women and Children in Rural Areas), a Government of Gujarat programme.

Crafts: Building on Traditional Skills

During the field visits, SEWA observed that women from this particular desert region were endowed with traditional skills in different crafts that made their living more refined and artistic. In the houses of Ahirs and Rabaris, rucksacks, toys, hand fans, mattress covers, wall hangings, door panels and even cattle cloths were all embroidered. These women rarely used their craft skills for commercial purposes. When SEWA suggested that the women could earn from their skills, the women in turn asked SEWA to help in finding a market. In order to first test the market potential, SEWA collected traditional craft items and tested them in the markets of Delhi, Mumbai and other metropolitan cities through various exhibitions. The very first market exposure earned the women over Rs. 2.5 lakhs. So it was decided to organise women to produce traditional handicrafts as an income generating activity. Two issues that challenged SEWA were how to organise women for such activities and how to improve their skills to suit to market demands.

Training and Skill Upgradation

Initially, SEWA faced many difficulties in coping with the way women did their traditional embroidery work. Because the handicrafts traditionally had no commercial purpose, women worked at a leisurely pace. SEWA had to find a way to streamline embroidery activities so that orders could be completed in the stipulated time period. Secondly, so far, the women had worked on thick and coarse material, but the cloth used for marketing purposes was fine and the threads were smooth. Besides, often the cloth became stained with oil or smelled of goats or became soiled when children played with it. Traditionally, women used bright colours and locally available thread; they were reluctant to use subdued, non-traditional colours.

SEWA took the help of Dastakar, a Delhi-based voluntary organisation to provide new product designs and enhance the existing skills of the women. In addition, a development programme of the Gujarat government, TRYSEM, provided three months of training with stipend to the embroidery group. The women practised working on different types of cloths, using different types of threads, different colours, designs and to complete the work within stipulated time limits.

Organisational Structure

Soon, SEWA had to decide the appropriate organisational structure for sustaining the income-generating activities. SEWA had experience working with co-operatives. It was felt, however, that the formal structure of a co-operative may not be suitable for a group of illiterate women. Besides, the crafts involved were heterogeneous; embroidery work is different from patch work, which is different from bead work. These differences may lead to disparity not only in wages but in approach also.

At this time, the DWCRA (Development of Women and Children in Rural Areas) programme was introduced by the Gujarat government in Banaskantha District. SEWA felt that the DWCRA structure was more flexible than the co-operative structure. Besides, DWCRA has a focus on poor women unlike co-operatives. DWCRA also allowed SEWA to organise women on the basis of craft-type. Thus, under the DWCRA programme, the women's groups for embroidery, patch work, and bead work were formed and registered with the District Rural Development Agency at Palanpur, Banaskantha.

Group Formation Process

Group formation was not an easy task. First, the gram panchayat and women together prepared a list of all the women in their villages. The list was submitted to the Taluk Panchayat office for verification, and short-listing of women members below the poverty line. This is known as the IRDP (Integrated Rural Development Programme) list. Based on the IRDP list, a village-wise list of craftswomen was prepared with the help of the gram panchayat or the Sarpanch. The village lists were consolidated into a master list. Then the prescribed application forms were obtained from the Taluk Panchayat offices and filled up.

Meanwhile, a series of meetings with women members, and of the gram panchayats and gram sabhas were organised to explain the DWCRA programme. It was declared that a revolving fund of Rs. 15,200 would be provided to groups of 10-15 women through a bank account. The operational procedure was explained in detail. This was crucial to provide basic information and prevent any underhand dealings.

Once the programme was accepted in principle, a series of meetings with the actual producer groups were organised. A group leader and committee members were selected for each group. The DWCRA groups were then registered at the district level. The district authorities directed the Taluk Panchayats to carry out the necessary formalities. On receipt of the registration letters, bank accounts were opened for each group in nearby banks. The group leader, one committee member and the gram sevak were the signatories for these accounts.

Training of Group Leaders

The leaders and other members of the group were given on-the-job training regarding business practices and bank procedures. The leader and one committee member were exposed to local and wholesale markets for the purchase of raw materials. Quotations were obtained from different places and placed before the group for a decision. For example, for one of the orders, the members first listed all the shops where the raw material was available. Then, the shops listed were visited by batches of two to three members who obtained the wholesale and retail rates of the materials to be bought. These were compared after addition of transport and travel costs. Further, it was also considered important that the selected party should be able to supply required amount of the material whenever needed.

Product Marketing

The DWCRA programme was strengthened further when the Department of Rural Development provided assistance for setting up a marketing outlet, Banascraft, in a posh commercial area of Ahmedabad. In addition, the Department of Industries sponsored the sales and publicity of Banascraft under the special employment programme. Today, Banascraft procures goods from 52 different groups in Gujarat. Further, an annual plan to produce goods worth Rs. 2 lakh has been worked out between the DWCRA groups and the State Handicraft Corporation. The DWCRA groups have also participated in various exhibitions. The successful marketing strategies made the groups confident of getting orders.

The Benefits

Traditional craft skills have not only provided assured income to poor women but also have helped to improve the nutritional and living conditions of their families. The women can now work indoors, look after the younger children and send their elder daughters to school. Most importantly, the assured income has provided economic security.

Minor Forest Products

The women of Banaskantha also collect minor forest products. During the difficult part of the year (6 to 8 months) gum collection is the major source of income for rural communities. Mainly Kolis, Ahirs and Harijan communities collect gum. The Gujarat Forest Department has carried out a massive plantation of Prosopis Juliflora popularly known as Ganda Bawal to check soil erosion. This gum-producing tree is highly heat- and salt-resistant and, hence, survives in the desert.

A group of four or five women begins an eight-to-ten kilometre walk at 4 a.m. to collect gum. They return by 2 p.m. The process of collection is risky as it is easy to get lost in the desert, they may be caught by an army patrol in the border area, or they may be injured by poisonous thorns. Ultimately, they get Rs. 4 to 6 for the day's work from the sale of gum to private traders.

Group Formation

In 1990, SEWA organised about 800 women gum collectors from eight villages into DWCRA groups and obtained licences from the Gujarat State Forest Development Corporation to collect the gum. To get the licences, the DWCRA group applied to the regional office of the Forest Corporation estimating the annual collection. This estimate was verified by the Corporation and the licences were granted. The women are given identity cards by the corporation. The gum purchase rates are fixed by the corporation and the entire amount collected is purchased by the Corporation at double the price given by private traders. The total gum collection by eight DWCRA groups comes to 8000 kgs per month. Each member earns about Rs. 300 to 400 per month.

Local Organisation Building

SEWA has formed a district level federation of the DWCRA groups with a membership of 40,000 women. This association has, for the last two years, been active in identifying local livelihood strategies and also builds, strengthens and sustains the livelihood systems of the rural poor.

Discussion Notes

Change in the stereotypical male/female roles has been accomplished gradually via the income generation programme. Due to the requirements of the income-generating activities, the participating women, who previously had not stepped out of the villages, began to interact with various government officers fearlessly. When women were under pressure to meet order-deadlines, sometimes men of the family went to fetch fodder and fuel. Women also organised themselves and fought for their demands with panchayat and government officers. It was also argued that economic activities could not be sustained in isolation if corresponding social changes did not occur.

When DWCRA groups in the other parts of the state failed, what could be the reason for the success of these groups? Is it the name of SEWA? What would have happened if a small NGO was involved instead? In some respects, SEWA's name might have helped but the women themselves also struggled, for example, to get better prices of gum from the Forest Corporation. The good reputation of the facilitating organisation can help but it is not a critical factor.

Did these processes and SEWA's intervention contribute to an increase in the creditworthiness of these groups in the eyes of financial institutions? While SEWA's reputation played some role in assuring the banks that full recovery could be achieved, the creditworthiness primarily depended upon the kind of relationship the groups established with the banks.

What was the range of, and increase in the income and the profit generated by the DWCRA groups? The women's income ranges from Rs. 250 to Rs. 700 depending on the amount of the work they do. But more than the actual increase in income, the assurance of regular income seems to be important in the eyes of these women. Previously, women used to migrate to remote areas in search of work. Now, they are able to repair their houses and purchase some

assets like cattle which shows that there is overall economic improvement. The cumulative annual profit of the 22 DWCRA groups is Rs. 2.19 lakh.

Although SEWA emphasises improvement of traditional skills in its programmes to generate income, certain non-traditional skills (e.g., teaching file-making to the daughters of women waste-pickers or training women for nursery work) have also been tried out successfully. ■

SEWA

Table 1 - Details of the DWCRA Craft Groups

Type of Group	No. of Groups	No. of Members	Total Income (Rs.)	Total Sales (Rs.)	Profit (Rs.)
Registered	22	660	16,09,856	18,28,900	2,19,044
Unregistered	6	240	2,00,705	2,96,860	96,155
TOTAL	**28**	**900**	**18,10,561**	**21,25,760**	**3,15,199**

Table 2 - Details of DWCRA Gum Collection Groups

Group	No. of Members	Average monthly gum collection (kg)	Average monthly sales (kg)	Average monthly income (Rs.)
Ewal Mahila Sewa Mandal (2)	40	1,000	9,000	8,000
Charanka Mahila Sewa Mandal (2)	55	1,120	10,000	8,960
Dhokawada Mahila Sewa Mandal (2)	20	400	3,600	3,200
Patanka Mahila Sewa Mandal (2)	45	1,500	1,500	12,000
Fangli Mahila Sewa Mandal Mandal (2)	40	1,000	10,000	8,000
Anternesh Mahila Sewa Mandal (2)	50	2,008	20,000	16,000
Parsund Mahila Sewa Mandal (2)	40	1,600	16,000	12,800
Amrapur Mahila Sewa Mandal (2)	20	400	3,600	3,200

THE ENVIRONMENTAL CHALLENGE POSED BY THE AGATE INDUSTRY AT CAMBAY, GUJARAT

Presented by Amar Vyas

Background

Cambay, also known as Khambhat, is a sea port situated at the head of the gulf named after it. It is a taluk headquarters of Kheda district and is well connected with other major towns and cities of Gujarat. Cambay was one of the richest cities of western India till the 17th century. It was the home of many important crafts like weaving, dyeing, embroidery, artwork on wood, metal, ivory, amber and horns, and various kinds of stone work. The only industries that now survive are the cutting and polishing of precious and semi-precious stones like akik (agate) and, hand- and power-looms.

The Agate Industry

In the processing of agate stones, raw stones pass through six different stages. A brief description of each stage follows:

The main source of agate is in Jagadia Taluk of Bharuch district 80 kms away from Cambay. Agate is mined with iron pickaxes at a depth of 4 to 6 mts. The mine-workers are local tribals who are paid on a piece-work basis. After the stones and pebbles are brought out from the mines they are spread and exposed to the sun for two months to remove extra moisture. The process of firing is somewhat similar to the potter's method for heating earthenware. Properly backed stones are cut in the required shape on iron spike known as *Shingadi* (horn-headed hammer). Workers hold and adjust stones using two fingers to shape them and to remove the *Chal* or the rough, thin outer skin of baked stones. To protect their fingers, workers wear special cotton bandages known as *Anguthi*. Bigger stones are cut with toothless saws.

The stones, after being chiselled into desired shapes, are handed over to *Ghasiyas* (polishers) who work on emery wheels. The wheels are either power driven or manually operated. The electric wheel is faster, and two to three workers can generally work on one wheel. *Ghasiyas* are paid on a piece-rate basis. Articles are smoothed on emery wheels and then polished to give them lustre and shine. The polishers are known as *opiya*. Various methods of hand polishing were used including the *Saran* (lapidary wheel), *Patimar* (polishing against a wooden board), and the leather bag. All these processes have been replaced by the mechanical method which is quicker and eliminates physical drudgery.

After the stones are polished they are passed on to the *Vindharas* (drillers). There are only five establishments of *Vindharas* in Cambay town but farmers of seven neighbouring villages undertake this work as a subsidiary occupation to farming. About 1000 households or 3000 male and female workers of ages ranging from 9 to 45 years are engaged in this work. Some of the finished semi-precious agate articles are sold in the local market but 80% of the total production is exported.

Occupational Hazards

There are various ways in which this occupation affects the health of workers but the most hazardous is the inhalation of fine dust. Very fine particles of dust are generated during the processes of grinding, roughing, smoothing and mechanical polishing. The finest dust is generated during mechanical polishing. The very fine dust that is generated remains suspended in the air and settles all around the workshop. Exposure to this dust causes an incurable disease called silicosis. Since the dust is not confined to the work place (which is often within the home) not only workers but other family members and even neighbours may be affected. The mechanisation of the production process is considered to be responsible for silicosis becoming endemic in this area. Although the symptoms of silicosis are similar to tuberculosis and many silicosis patients also develop tuberculosis due to reduction in immunity, silicosis has its own aetiology and treatment. In one village, about ninety workers died due to silicosis in a two-year period.

Intervention by Janpath

Janpath is a forum of activist organisations and is committed to improving the situation of the oppressed. It has the membership of 200 organisations from all over the state of Gujarat. It provides a platform for concerned activists and organisations to meet and discuss their problems and consult others. Janpath does not involve itself directly with the responsibilities of the project but provides crucial constructive support to the activities of its members. It does, however, launch initiatives in hitherto neglected problem areas in order to promote action by local community-based organisations.

In the case of the agate industry, Janpath sponsored a local unregistered organisation with a membership of self-employed agate workers and some sympathetic agate merchants. The organisation is called Akik Udyog Vikas Mandal and is located at Sakarpur, a village near Cambay. The Akik Udyog Vikas Mandal adopted a three-level strategy: development of dust-free machines, providing life insurance coverage to workers and initiating a programme for widows and children of victims.

Support was sought from various organisations. The Gujarat Gram Technology Institute took a keen interest and developed a new dust-free machine. The challenge faced, then, was how the technology could be transferred to workshop operators. It meant a change from the old, simple, low-cost easily operated machine to a complex and costly machine. The technology dissemination required both training and financial support.

Simultaneously, the Mandal began its efforts to cover workers under an Life Insurance Company (LIC) scheme. In the beginning, LIC supported the scheme. Later, looking at the death rate, LIC increased the premium rate to such an extent that the Mandal was forced to abandon the scheme.

In addition to the LIC scheme, the Mandal provided medical support to victims of silicosis and organised welfare activities for families of victims. At present, the activities of the Mandal are

supported by Hivos (The Netherlands), Terre des Hommes (Germany) and the Government of Gujarat. Support in various forms from interested individuals and organisations has also been sought.

Discussion Notes

Various questions on the organisational structure of the agate industry were raised, including:

- Who owns the raw material and what is their role vis-à-vis the middlemen?
- What is the basis for the determination of wages and where does the output go?
- What is the range of profit involved in this industry?
- How can contractors or owners be made to share the responsibility for the workers' health? Could the responsibility for the payment of premium for life insurance be placed with the employers or the owners of the raw material?

As regards the dust-free technology developed by Janpath, various avenues for making the adoption process smoother were discussed. Questions were raised regarding the role of the government, of the banks and of regulation in the dissemination of dust-free technology. Other questions included the possibility of starting a consumers' campaign that agate items will not be purchased unless they are produced on dust-free machines.

It was also reported that the families of workers in the agate industry have been ostracised within their own and neighbouring villages. Children of agate workers are not accepted in marriage by other families in the same caste. Consequently, agate workers, well aware that death is inevitable and that other families will not have any relations with them, concentrate on earning as much as possible.

The participants felt that the case of the agate industry workers is not only a case of seeking technological intervention but is a wider problem that needs to be handled in totality with more information on various aspects connected with it and collective action to solve it. ■

JANPATH

Table - 1

Six Major Occupational Diseases Related to Dust Exposure in Gujarat

1.	Silicosis	Exposure to silica dust from: 1. Stone mining and stone crushing 2. Silica mines, grinding and pulverising of silica 3. Mining and working in slate industry 4. Pottery and tile industry 5. Glass and agate industry
2.	Asbestosis	Exposure to asbestos fibre from manufacture of: 1. Asbestos sheets for roofing 2. Automobile brake liners
3	Byssinosis	Exposure to cotton fibre in: 1. Ginning and pressing industry 2. Blowroom in cotton mills
4	Pneumoconiosis	Exposure to coal dust in: 1. Coal mines 2. Coal transportation and loading and unloading
5.	Isabgolosis	Exposure to Isabgol dust in: 1. Processing units of Isabgol
6.	Tobaccosis	Exposure to Tobacco dust in: 1. Tobacco trashing yards 2. Tobacco pulverising units

Table - 2

Workers in Hazardous Industries in Gujarat

Disease	Type of industry and dust exposure	Area	No. of workers (approximately)
Silicosis	Stone, Slate Marble, Silica Mining and Processing Pottery, Glass Tiles, Agate	Panchmahal, Surat, Rajpipla Surendranagar Rajkot, Junagadh Banaskantha Morbi, Than Baroda, Cambay	50,000 15,000 10,000
Asbestosis	Asbestos Fibre	Ahmedabad, Sanand	2,000
Byssinosis	Cotton Fibre	Ahmedabad, Bharuch	50,000
Pneumoconiosis	Coal dust	Ahmedabad, Kutch All coal transport points	25,000
Isabgolosis	Isabgol dust	Sidhapur, Unza	10,000
Tobaccosis	Tobacco dust	Kheda	15,000
Total			**11,87,000**

Table - 3

Number of Workers in Agate Industry in Different Processes

Process	Details of Risk	Daily wage (in Rs.)	No. of workers
Mining	Not hazardous	40	400
Sun heating & firing	Not hazardous	70	200
Cutting & shaping	Possibility of cutting fingers	86	150
Grinding & smoothing	Most hazardous due to exposure to silica	95	3,000
Polishing	Semi hazardous due to exposure to dust from drum	80	200
Drilling	Not hazardous	30	4,000
Total			**7,950**

COMMUNITY LIVELIHOODS: THE MARUSTHALI BUNKAR VIKAS SANGH

Presented by Tarun Sarwal

The Marusthali Bunkar Vikas Sangh (MBVS) was started as an experiment in income genera-tion by the URMUL Trust, an NGO in Bikaner district, Rajasthan. The main objective of the programme was to revive the dying wool-related craft industry and through this to provide profits that could be utilised as funds to support the development programme implemented by the Trust.

The beneficiaries were meant to be people from 33 villages where URMUL Trust had been implementing an integrated development programme. These villages were located in an area about 200 km from where the weavers who formed MBVS were located. While this dream of having a large existing NGO funded through a rural industry failed through its own contradictions, what has emerged is a community group which has successfully adapted this idea. In 1986, the Trust contacted weavers of the wool craft industry. In 1990, with the involvement of more than 100 families, MBVS was formed and registered. In 1995, MBVS started health and education work funded through its own profits. During this journey many people with a wide variety of experiences and interests helped. They include URMUL staff, designers from the National Institute of Design (NID), Dastakar (a craft marketing group), funding agencies like Save the Children Fund, Oxfam, Actionaid and a few others. The most important contributors, though, were the villagers from Lunkaransar Taluk who were involved in wool spinning, and the weavers themselves who have made this their own process of development.

Community Profile

The extreme climate, harsh terrain, poor infrastructure, inadequate social services and periodic drought have made Rajasthan one of the poorest regions in the country. The socially, economically and politically marginalised Meghawal weavers' community is located in two backward districts of Western Rajasthan, Jaisalmer and Jodhpur. Weavers, considered to be untouchables, live in small clusters separate from the rest of the village.

Background

Nearly a hundred years ago, Rajasthan had a thriving wool industry. Bikaner is still the largest market for wool in India. Activities related to the wool industry such as sheep rearing, hand spinning and weaving provided livelihood to Rajasthani people. The local market could sustain a large number of weavers. The industry declined gradually with the introduction of modern technology and colonial trade practices. The production skills possessed by the older generation are the only remnants of this industry.

URMUL Trust started its search for the otherwise forgotten weavers' community after an encounter with an itinerant salesman selling wool *pattus* (large woolen shawls). The trail led

to the discovery of a weaver family and few other weavers at a local fair. Visits to few more local fairs in the region revealed blankets woven with intricate patterns. Some more weavers were traced after few months. That was the beginning of the Marusthali Bunkar Vikas Sangh.

The development of MBVS as a weavers' co-operative was a combination of several planned and unplanned processes. These included development of business aspects of the enterprise, efficient means of production, and a product appropriate to the needs of a new market. In addition, development of a group identity, changed understanding of livelihood, and development of a sense of ownership of one's own progress transformed the relationships the group members had with each other and with the external world. While many of these processes seem, in retrospect, to be natural, compatible and unplanned, they did, at times, create tension and feelings of uncertainty among the Sangh members.

Development of the Craft

To put it crudely, craft is a mixture of technology and art. Unlike the more modern expression of art, whose value is derived from its individuality and uniqueness, the art in craft derives its value from a communal expression of style and form. The development of a craft and the technology that produces it is, therefore, very closely linked to the development of a community.

Since it is also a source of livelihood, craft has to relate to the creation of employment and profit. When a craft is seen as an income-generating enterprise, there is a tendency to minimise costs of production and maximise returns. One of the easiest ways to reduce prices is to dilute the special artistic nature of the craft and change the technology. Between these constraints of destroying the craft and developing a sustainable source of livelihood, MBVS and URMUL sought with the help of NID to develop the craft. This involved the following changes:

a. documentation of technical, artistic and production process of the craft;
b. upgradation of the skills of the weavers;
c. change in design, product, materials used, and technology;
d. introduction of new standards in quality; and,
e. training of weavers in the new aspects of the craft.

None of the above occurred smoothly. About 15 new products were designed and failed the market tests. Some terrible designs emerged, a large loss was incurred in trying to change from wool to cotton, new dyeing processes caused wastage, newly introduced technologies did not work, the standards of production did not improve for a long time creating a large dead stock of material, designers left the project, etc.

A process of learning had begun. This led to a process of debate and accountability to the membership of the organisation. There is significant pressure now on the management group to ensure that such mistakes do not occur in the future.

The current production of MBVS is recognisably the same craft; it has stayed loyal to the original colours and to the original motifs but the products are geared largely to the urban

market. Through training a whole new generation (now in their 30s and 40s) were re-introduced to the intricacies of Meghwali specialised weaving techniques. Instead of *pattus*, the MBVS weavers learned to use their skills to produce salwar kameez, cushion covers, shawls, bags, etc.

Two aspects of the craft, however, were not addressed adequately - the role of women and their contribution to the process, and the internalisation of the process of designing. In the production process, there is a clear sexual division of labour. Women do a lot of the preparatory work. It has never been established to what extent women benefit directly from this work. The issue of gender, however, is now being addressed by the formation of a women's group through which the development of social welfare initiatives are being directed.

As to design, although several attempts were made, there are very few commercially viable designs that the MBVS has introduced to the market without external designs inputs.

The Development of a Market

The rural market for *pattus* had been controlled by the rich *baniya* (merchant) community who also controlled the rural market for spun wool. By controlling prices, they were able to reduce the daily wage for weaving to less than Rs. 10. There were two alternative local markets for weavers - local religious fairs and the rich within their own villages. Few weavers had the necessary knowledge or skill to exploit the former and the latter could only sustain the livelihoods of a few families.

Since there was no real prospect of reviving the rural market, especially in the wake of two years of drought, the obvious choice was to develop the urban market. There was a booming demand for handicrafts in metropolitan cities and the returns promised to be higher. This market also demanded intricate patterns, which provided the weavers with the opportunity to add value to their products.

The key strategy was to introduce the weavers rather than an intermediary organisation to the market, so that they could understand the nature of the urban demand and develop contacts and the capacity to market their products. Several marketing strategies were attempted and their cost effectiveness assessed. The group's capacity to meet the needs of particular market niches was also assessed (in terms of volume, lead time, quality, and design). The approaches employed included:

a. sales through bazaars;

b. direct selling to shops;

c. production and sale of goods on consignment basis;

d. opening of a retail outlet;

e. sale through agents;

f. production on the basis of new designs for bulk orders;

g. linkages with alternative trade organisations for overseas sales; and

h. contacting commercial exporters for orders.

Developing a successful marketing strategy was essential to the enterprise. Six hundred women were continually employed spinning woollen yarn. In addition, 70 weavers and 40 tailors were employed. Together they produced several hundred kilos of woven products every month.

Though there were some encouraging results, problems with quality and timeliness in fulfilling orders affected the popularity of the products and sales stagnated. In addition, the market for woollen products was seasonal and lasted only about five months. In order to provide livelihoods for the entire year, it was decided to change to the spinning and weaving of cotton products. The weaving techniques could be adapted to produce cotton textiles quite easily but women accustomed to spinning wool could not adapt to spinning cotton. A decision was made to change to mill spun cotton so that the weavers could have year-round employment. This decision, in time, had major implications for the relationship between URMUL and MBVS.

There were also several traumatic incidents in introducing the weavers to metropolitan India. A few of them swore never to leave home again. In time, a group of weavers felt confident enough to travel to all the four major metropolitan cities without support from URMUL. Eventually, the exposure was positive and brought new confidence to MBVS.

By the second year, however, a huge amount of unsold and dead stock remained. The original revolving loan had been given to fund the development of the weavers was almost exhausted. But sales finally started to pick up and have not stagnated since. In 1995, MBVS had grown to 150 weavers and was continually refusing orders.

Although the majority of the weavers involved in this specific type of pit loom weaving are now producing for the urban market, the rural market has not suffered. Many other weavers for whom weaving was previously not viable have now entered the rural market, organising themselves in the way that the MBVS weavers had originally operated. The decline in supply has also increased the price they are offered for their labour. The success of this craft development experience has led URMUL to promote handicraft development in all of its project areas.

Organisation of Production

The process of production, from the processing of raw wool to the marketing of the finished product, is organisationally complex since it is so decentralised. Imported wool is bought in the local market, distributed to 600 spinners in 12 villages (as much as 50 km apart), spun, collected and graded, dyed eight different colours (according to specific orders, which could include 10 different products and 20 different designs), transported a distance of 200 kms to 100 weavers in eight villages in two different districts, changes in design are explained to each weaver, specifications are checked as the weaving is in progress, quality of the finished woven material is checked and it is given to tailors in three different villages before the final products are packed for the market.

MBVS had to develop a system to ensure that every detail was correct. This was extremely difficult because the only units of measurement that the weavers had were *hath* and *ungal* ("hand" and "finger"). The quality of the wool could never be guaranteed, either, and during this period all the looms being used were modified.

As the weaving enterprise grew and changed, there were disputes but it was through this process that the core business values of the group emerged. This included a system for quality control. It was decided that if a product was not marketable, the individual weaver would have to repay the price of the raw material (up to Rs. 200 per piece).

A Different Approach to Livelihoods

Before the weavers were approached by URMUL, the livelihood strategy employed by most of the weaving families varied depending their economic status. Faced with a constant insecurity of income as a result of the demise of the weaving industry in Rajasthan, the weavers tried to maintain the possibility of several different sources of income (e.g., agriculture, migration, wage labour, military service, carpentry and other crafts, music, wool spinning, trading, government jobs, trading, getting assistance through NGOs and/or government schemes). During the early stages of the project, weavers would not concentrate on the development of one source of livelihood but would move to new opportunities as they came up. As a result, the project became just another source of potential income, which might get priority if no other sources of income were readily available.

The weavers' actions show a hierarchy of livelihood strategies. On the lowest rung were the poorest whose main concern was survival. Their livelihood strategy was geared to finding sources of food, shelter, etc. Those who were in a slightly better financial position (i.e., they were able to survive but had no security) tried to develop assets and relationships that would ensure their security. This strategy might include the purchase of small livestock, doing favours for the rich, etc. Only those who have gone beyond this stage, who are both able to survive and have adequate assets, feel secure enough to be willing to invest in a growth activity. Thus, they might set up a small business or invest in raw material for weaving.

That the weavers operated under this rationale can be seen from the pattern of their participation in the initiative, and in the eventual registration and ownership of their own weaving co-operative. As returns from weaving became regular and quick, the weavers' participation in the project increased and other potential sources of livelihood were either taken up by other members of their families or discarded. This took a long time and there were many debates within their families and with the URMUL staff as it mean changing their perception of the concept of livelihood.

As the weavers earned more money, they began to purchase assets to ensure their security. After this need was satisfied, they began investing their own money in the weaving co-operative. The people who were the leaders in both these processes and convinced others to contribute were the agents who, through the process, earned a lot more money than the poor weavers.

Development of an Identity

The development of the identity of the members of the MBVS was as important as their increasing financial security in the final success of the co-operative. It is amazing that despite all the tensions, there has never been a split in the MBVS and no one has left the co-operative in the seven years since it was initiated.

The weavers lived in isolated groups, in some cases without contact with each other. As Meghwals, they were treated a little better than animals and lived with the label of belonging to a socially inferior caste. The traditional manner in which they faced their systemic abuse was through pride in themselves, in their manners, and in their culture. Coming together as a group gave them a strength they had not found previously. They wore their changing status with pride. Soon, through marriages between weaver families from different villages, the process of identification was strengthened. The issue of their status and untouchability was discussed and shared more openly.

While their social identification with each other grew, the development of an identity within the project also grew. At first, this was just through sheer pressure of work, through learning together. Slowly, the small difficulties gave rise to a shared set of values about roles and responsibilities within the group. Out of the experience of balancing the demands of the weavers, the realities of the market, the depletion of the revolving fund, and the fluctuating prices, emerged a set of strict rules to be implemented by a consensual leadership. URMUL suggested that the co-operative should conduct regular elections so that the core group would not stagnate, and a truly democratic organisation would develop. But at each election, the only candidates were the original leaders and they would be voted in unanimously. After a few attempts, URMUL decided to desist.

Aside from this project, URMUL was conducting an integrated development programme in 33 villages at the time. The weavers were not concerned with this work. Gradually, the distance between the weavers and URMUL grew. There were several reasons. The first issue was the weavers' decision to shift to cotton from wool. This decision was made partly because woollen is more expensive to purchase; the revolving loan was close to exhaustion and the enterprise in danger of going bankrupt. The shift meant that the women spinners began to earn less and less. This decision affected the other programmes of URMUL as the village women had become accustomed to having a regular source of income from spinning. The URMUL staff began to blame the weavers. The dispute became very contentious.

At the same time, though the weavers had adopted rules that would ensure the enterprise's profitability, there was a very real danger that the business would collapse due to a serious cash flow crisis. In an attempt to increase the group's working capital and to transfer ownership to the weavers, URMUL asked each weaver to contribute Rs. 1,000 to the co-operative by allowing this amount to be deducted from his income over a four month period. This suggestion was not accepted and for two weeks, 50 weavers left the organisation.

Then, miraculously, the market picked up and for three months the co-operative earned a profit. The weavers decided to separate the co-operative from URMUL and operate from a rented

centre close to the weavers' villages. The entire stock and all the weaving materials were loaded onto trucks and taken to the new centre 150 kms away. This was a symbolic move. Today, MBVS retains URMUL staff on its board of trustees and works under the name of Urmul Marusthali Bunkar Vikas Sangh. In establishing its independence, it found its identity.

Ownership of Development

Soon after the move to the new centre in Phalodi, MBVS began to do extremely well. There was a growing demand for their products and profits grew. Within a year, the co-operative had made a profit of over Rs. 4 lakhs. The profits were distributed as a bonus to the weavers as well as invested in the education of their children. The links with URMUL were restored. The group received money and land from the government to build a new centre. Since then, they have been addressing community development issues with technical assistance from URMUL. First, they responded to a malaria epidemic in the region. They have now begun a sponsorship project from Actionaid for the provision of primary health care in the villages where they are still a minority.

Discussion Notes

Due to shift from wool to cotton as raw material many women spinners lost the employment. Though many of them remained unemployed for some time, few of them were incorporated in stitching and dyeing. Few more learnt to spin cotton.

The weightage given by MBVS to women's issues vis-á-vis other issues and the approach taken was discussed. With limited funds available for the development work, the priority was given to children's education. The situation is changing now. Women have a special platform to express their views in annual weavers' sammelan, in which they have been participating in large numbers. Besides, the annual bonus is given to the woman of the weaver's family. Recently, it is decided to give 25% of the weaver's payment directly, by separate voucher, to the woman of the family.

Another issue was the urban and export-market-oriented strategy adopted by URMUL and MBVS which follows a logic, in the trend towards globalisation, similar to any other business venture. Expansion of the market from rural/local to urban and then to global was the only way to increase the income of weavers from less than Rs. 10 a day to current level and to ensure the long term sustainability of the project. It may become a point of ideological debate. However, unless the rural market can grow to sustain rural economy this seems to be the only option.

When there is a campaign against chemical dyes world over, why MBVS has adopted chemical dyes in the place of vegetable dyes previously used? Vegetable dyes do not give the fast colours which are preferred in the urban market and with a tight schedule to finish many orders, there is no time to experiment with vegetable dyes. In the present dyeing centre, located within the city limits, pollution is a problem. However, it is hoped that with a new centre away from the city limits this problem will be solved. ■

THE URMUL MARUSTHALI BUNKAR VIKAS SAMITI
A SUCCESSFUL COMMUNITY-BASED RURAL INDUSTRY

Presented by Ramchander Barupal

Looking Back

Our history dates back to a chance encounter in 1986 with two staff members of URMUL Rural Health Research and Development Trust. We used to sell our woven products in *melas* (fairs). To ensure regular sales our only option at the time was to manufacture our products for *thekedars* (contractors).

The encounter led five of us weavers to Lunkaransar where we lived for three years. Those three years were important for us since this is when the foundation of our knowledge about the working of an organisation was laid. We learned the basics of marketing and accounting. Forty of us were trained in weaving on improved looms. A student from the National Institute of Design (NID) helped us to improve our dyeing technique and to graduate to permanent dyes.

The urge to return to our villages was overwhelming. The thought of being indebted to *thekedars* once again and of working for someone else provided us with the incentive to look for other alternatives. We decided to try and set up an organisation of our own. The decision to move back was not easy. Staff at the Trust were split evenly on our chances of making it on our own. A grant from Save the Children Fund and the support of URMUL Trust enabled us to make the transformation.

We set up our new base at Phalodi (Jodhpur district) and registered a society of weavers. There were 70 weavers from six villages - Bhojasar, Gomat, That, Chacha, Kadwa, and Bhinyasar. The Urmul Marusthali Bunkar Vikas Sangh was registered on 30 January 1991.

The Organisation

MBVS has a permanent staff of 29 people who are responsible for dyeing, production, marketing, stock-keeping, accounting, and for the implementation of MBVS' educational and developmental activities. There are nine *vyavasthapaks* (organisers) from our villages and each one of them coordinates the weaving of 12 weavers, on average. *Vyavasthapaks* collect orders and dyed yarn from Phalodi and take these to weavers, distributing work. They bring back woven products. The finished products are checked in Phalodi before they are stocked on dispatched to their destinations.

A dyeing master and two assistants dye cotton yarn and wool in Phalodi. The yarn is purchased in bulk from Ganganagar or Delhi while the wool is purchased from Lunkaransar or Jaisalmer. The chemical dyes have contributed to the quality of dyeing.

Despite we lack formal training, our book-keeping and stock-taking practices have served us well.

Our Products and Their Marketing

Our weavers weave in two traditional styles - Bhojasari and Malani. Initially, we wove only woollen *pattus* but fluctuations in the wool market prompted us to shift to cotton. Cotton was spun in villages around Lunkaransar but this yarn could only be used for making *dhurries* (mats). We decided to use yarn from mills and now we produce woollen and cotton *pattus*. Our range of products based on traditional motifs include utilitarian products and soft furnishings, cushion covers, woollen shawls, bedspreads, bags and file covers. More recently we have included kurtas and dupattas (items of clothing), and yardage. We are trying to introduce new colours and designs to our range.

Exhibitions are our major source of income. We have participated in exhibitions organised by Oxfam, Dastakar, and CAPART in all the major cities besides holding one of our own in Bombay. In the last two years, we have begun exporting on a larger scale to England, New Zealand, Switzerland, Italy, Japan, and U.S.A. through alternative trading organisations like Oxfam Trading, Trade Aid, and OS3. We also work through exporting houses in Delhi, Dehradun, Bombay, and Calcutta. In 1990-91, exports comprised only 35% of our total sales. The share of exports grew to about 50% in 1991-92 and has remained at that level since then.

Sales on a consignment basis or by order are made to organisations like Dastakar, Karukriti, Sampark, Rajasthan State Industries Corporation, and Central Cottage Industries Emporium besides shops in major cities. We have a show room in Junagarh Fort in Bikaner. In December 1993 and October 1995, all the crafts groups associated with URMUL conducted an exhibition in Delhi. We have sold products worth close to Rs. 7.75 lakhs through the URMUL crafts mela. We have also been able to procure fresh orders through this means.

Growing sales have lead to increasing wages for the weavers. In 1995, weavers earned Rs. 40-50/day compared to Rs. 10-15/day before the establishment of MBVS. In the year ending 1991, MBVS was able to give its 70 weavers a total bonus of Rs. 70,000. In 1993 and 1994, a bonus of Rs. 3,33,000 was shared by 110 weavers, and in 1995 the bonus amount was Rs. 2,75,000. Sales in 1993, 1994, and 1995 have been Rs. 19 lakh, 24 lakh, and 30 lakh.

Impetus for Growth

Each April, weavers and their families meet in the annual sammelan. Bonuses are given to the wives of the weavers. The future direction of MBVS' programmes and targets are decided.

Training is required not only to learn to work with new designs and colours but also to increase the number of weavers. Pressure from our community has induced us to start a regular training programme where trainees from poor families are taught how to weave. In the future, training will be critical for skill development and upgradation. By 1998, MBVS' hopes to have 200 weaver members (there were 150 in 1995).

A few years ago, we decided to enlarge the scope of our activities and include women's development besides education-related issues. The Government of Rajasthan has entrusted us

with implementing the Shikshakarmi and Lok Jumbish programmes. Under the former, we select, train, and support teachers in primary schools. As part of this programme, MBVS is running 15 *aanganshalas* (courtyard schools) especially for girl children. The curriculum was designed with the assistance of URMUL Trust. MBVS is also implementing the Lok Jumbish programme which seeks to provide primary education to all children between the ages of six and 14 years in two village clusters in Phalodi and Pokhran tehsils.

In June 1995, MBVS started an integrated rural development programme in six weavers' villages. Over the next few years, the number of villages in which MBVS is active as well as the scope of its activities will grow. Weaving continues to be MBVS' mainstay but it is the organisation's hope to be able to provide the poor people in the villages from which its members come with greater access to resources and to facilitate a process by which they can plan and manage development interventions which affect their lives.

Some years ago, the annual sammelan decided to work towards eradicating social evils such child marriage, alcoholism, and *mrityu bhoj* (death feasts). It was aso agreed that all weavers' children should go to school. MBVS decided to grant interest-free loans of Rs. 2000-3000 to weavers for construction of houses, medical expenses, marriages, and agricultural activities.

From the initial six villages, MBVS has grown to cover 10 villages. The new additions are Madwa, Ranisar, Bengti, and Kelava. The pressure continues to increase membership in MBVS so that a wider segment of the population can receive the benefits. ■

AQUACULTURE: A CASE STUDY

Presented by M. Subba Rao

Background

Large-scale aquaculture for commercial purposes was started a decade ago but it has become more intensive in the past five years or so. Ponds for aquaculture have been developed mainly by big companies and businessmen in large stretches along the east coast.

Traditionally, aquaculture has been practised by small farmers and fishworkers in Asia for many centuries. This form of aquaculture was small-scale, had low inputs and relied on natural tidal action for water exchange. For example, conventionally, in many parts of India, rice and shrimp are cultivated in rotation. Rice is grown in the rainy season and, in the same field, shrimp and other fish are cultured during the rest of the year. No chemicals, antibiotics or processed feeds are used. In this low yield method, known as extensive aquaculture, the harvest was small but sustainable over long periods.

In contrast, the intensive method of aquaculture is geared to commercial purposes and employs selective breeding for high fecundity, large egg size, higher hatching percentage, rapid growth, early maturity, higher temperature tolerance and higher disease resistance. An important factor for the success of intensive aquaculture is control of water quality. Aquatic animals are more sensitive to their environment, as they are completely immersed in water, and for that matter to any chemical pollution and to their own excreta. Fish excreta is high in ammonia, nitrite and nitrate and if nitrite, particularly, binds with haemoglobin it can prove to be fatal. Hence, input of large quantities of fresh water is very crucial for dilution and control of pollutants in water used for aquaculture.

The traditional extensive method of aquaculture was practised in rice fields and village tanks, i.e. predominantly in common property resources. Now, common property resources are allegedly being converted into private property for intensive aquaculture. Further, aquaculture which was hailed as a cheap form of food protein for the poor has, instead, been producing prawn and shrimp mainly for export. Aquaculture seems to have also brought huge profits to hi-tech industries and investors who deal in pellet fish food, vaccine research and production, ice production, processing, cold storage, transportation, etc.

Effects of Aquaculture

Aquaculture requires large amounts of fresh water to control salinity and pollution. As a result, both fresh water input and discharge of used water are very crucial and are required on a continuous basis. The pumping station and power houses created for this purpose have destroyed the shelter belt of some fish species in coastal area. Coastal vegetation has also been cleared to make way for ponds, thus destroying the barrier against wind and water erosion. Moreover, massive extraction of ground water used for salinity control in the ponds has depleted aquifers and caused sea water intrusion. This has seriously threatened the availability

of drinking water in the region. In the village of Kurru in Nellore district, there was no drinking water available to 600 families due to salinisation of all 12 conventional drinking water sources.

The marine ecology has been greatly affected due to aquaculture-connected activities. Waste water from the ponds carrying excess lime and organic pollutants is discharged into the sea. Also, intensive coastal fish farming is considered indirectly responsible for *red tides*, an explosive growth of algae, which is fatally toxic to fish.

Both land and water resources of the region are critically influenced with a resultant decrease in both agriculture and marine production. The salinity level in the soil of surrounding farms has increased due to a two-way process: direct flow of salt water from the aqua-ponds and increase of salinity in the ground water due to sea water intrusion. As a result, many paddy fields have been destroyed and farm output has been greatly reduced.

At the same time, the natural rejuvenation of wild fish stock is affected as juvenile fish are captured from the mangrove area to stock the ponds. Prawns/shrimp do not breed in captivity. Aqua-ponds are stocked by capturing larvae and juvenile fish from mangroves, and egg bearing females from the sea. This type of stocking increases the fish availability for intensive farming but depletes wild stock in the sea. Thus, the aquaculture industry flourishes at the expense of existing marine fisheries.

In addition to encroachment on (agricultural) land for the construction of ponds, access to sea by fishing communities is also restricted by aquaculture activities. Thousands of acres have been fenced and are guarded by security personnel with wireless sets and weapons. The beach area is also cordoned off for pumps and power houses.

Community Response

The coastal people have reacted to land encroachment in various ways. Youth organised themselves and appealed to the government to stop aquaculture. Land encroachment was physically stopped in the East Godavari district whereas in Kakinada a big rally and *Rasta Roko* campaign were organised as the means of protest. In Kavali mandal of Nellore district, pond bunds were destroyed and motors were broken by local fishworkers. At many places, the fishworkers rebelled and destroyed the ponds.

Simultaneously, the meetings, workshops and *padyatras* were organised in all the coastal villages. A team called 'campaign against shrimp culture' was formulated for educating and consolidation. A struggle for drinking water was initiated mainly by women which compelled the district collector to intervene and force shrimp companies to provide water tankers to affected villages. The murky dealings of shrimp culturists, politicians and governmental officials were exposed to the outer world through media. The movement was able to mobilise affected people effectively. Women participated in large numbers. A massive rally was organised and a national campaign was launched seeking support from other parts of the country. A state-level co-ordination committee was formed during a two-day workshop in which NGOs from all nine districts of Andhra Pradesh participated. Support from various people's organisations, human

rights groups, co-operative movement, legal professionals, media and academicians was sought. Further, an international network has been initiated to campaign against the consumption of shrimp in European countries.

The second level of the struggle sought justice and a local NGO helped fishworkers to file two cases in Supreme Court asking for a ban on aquaculture. The Supreme Court issued an interim order directing NEERI (National Environmental Engineering Institute, Nagpur) to look into the problem. Subsequently, the Supreme Court gave a judgement banning all aquaculture activities on the eastern coast except for the traditional extensive aquaculture. Meanwhile, the shrimp lobby also organised itself and defended its activities in the court. The final verdict is awaited.

Meanwhile, legislation was formulated by the State Government to demolish construction within 500 metres from the high tide line. Also, destruction of mangroves for shrimp culture was legally banned. Although various guidelines and directions to protect the rights of the local people and the coastal environment have been formulated, they are yet to be implemented.

Constraints and Contradictions

There were various efforts by the shrimp lobby to influence the movement. A few people who were initially part of the struggle were lured into becoming small aquaculture pond owners. In some places, to pacify people's emotions, temples and hospitals were constructed and money, etc., were offered. While some villagers stood strongly against aquaculture, others worked against the movement. Inter-group conflicts were created by shrimp companies to weaken solidarity.

There was an attempt by one powerful NGO to co-opt the movement. In the name of the movement, this NGO received a very large sum from a funding agency. A few other NGOs worked directly for the shrimp lobby too.

On the political front, while most of the political parties stayed in the background, the government gained time by declaring a series of guidelines and appointing committees. The media propagated the "TINA"(There is no alternative) position.

Follow-up Action

The campaign against aquaculture demands that mono-shrimp/aquaculture for the commercial purpose must be banned. Various alternatives should be explored for the regeneration of water, soil and vegetation resources that have been destroyed or eroded by aquaculture. Necessary legal provisions should be made on the basis of the 'polluter must pay' principle to regenerate the degraded environment and to compensate those who have been affected. Traditional aquaculture methods practised by the local people must be strengthened. The guidelines and directions formulated by the government should be implemented. Most importantly, unless people are granted inalienable rights to the resources they depend on for their livelihood, their condition cannot be improved. ■

FUTURE OF CHILIKA FISHWORKERS: A LIFE OF STRUGGLE AND DESPAIR

Presented by Ramesh Chandra

Background

About one lakh fishworkers of villages surrounding the brackish lake of Chilika in Orissa are dependent on fish resources for their livelihood. The majority of them are also landless labourers. There are various subcastes among the fishworkers but all of them are considered to belong to Schedule Castes. There are other villages surrounding the lake where upper caste people predominate. Fishworkers' *bastis* do exist within these villages.

At the time of Maratha rule, local chieftains controlled fish resources, which were leased to local fishworkers. The same practice was followed during British rule when Zamindars used to control the fish resources. Consequently, at the time of independence, most fishworkers were greatly impoverished and indebted to local money lenders. To add to the agony of the fishing community, a class of middle men traders grew with the development of Calcutta as the biggest market for fish. These middle men both traded in fish and lent money to the fishworkers for their day-to-day needs.

In the 1950s, to improve the condition of fishworkers, the popular state government started a co-operative scheme with the assistance of a Canadian expert. Fishworkers were organised into fifty co-operative societies, which were integrated into an apex body. The apex body obtained a lease to fish in Chilika from the government and entered into sub-leases with the primary co-operative societies. The apex body gave loans for the procurement of equipment and purchased the entire catch of the fishworkers for marketing. Thus, the exploitation by middle men ended and the condition of fishworkers began to improve. This improvement was to be short-lived.

Within a decade or so, the condition of the apex body deteriorated due to bureaucratic control and lack of support from co-operative banks. Middlemen traders again appeared on the scene, although the government continued lease the fish resources to local co-operatives. There was a constant pressure on the government by non-fishworkers to have a share of fish resources on lease. Despite this pressure, during 1970s, regulations to streamline the leasing operation were passed. The legislation was initiated mainly by the then revenue minister who is also a former leader of Chilika Bachao Andolan. Accordingly, the auction of the fish resources was stopped and fraudulent societies managed by non-fishworkers were barred from entering into fishing leases.

In the 1980s, a new dimension was added to the struggle of local fishworkers when prawns became a prized, exportable commodity in the international market. Outsiders like businessmen, close relations of politicians and higher level bureaucrats started to occupy forcibly the fish resources for prawn culture. Some of them successfully converted co-operatives into their agents by various means. The local fishworkers were further marginalised.

At this juncture, Tatas in collaboration with the Government of Orissa initiated prawn culture with semi-intensive methods in one part of Chilika lake. Under the banner of Orissa Krushak Mahasangha, the fishworkers protested the move by conducting rallies, demonstrations, meetings and conferences. The movement was easily repressed and the protesters were arrested. The agitation remained localised, restricted to three or four villages directly affected by the Tata project. At that point, strategically, the Orissa Krushak Mahasangha raised the issue of environmental degradation in order to mobilise fishworkers from the surrounding villages. Soon, it was realised that many more businessmen would follow the Tatas to earn foreign exchange and that the fish resources would dwindle due to exploitation and pollution. This realisation not only spread the struggle to surrounding villages but also attracted national and international media attention. Chilika Bachao Andolan was born at a state-level convention in 1993. After two years of struggle, the Tata's project was stopped as it was not cleared by the Union Ministry of Environment.

The Tatas were gone but smaller Tatas continued to rule the roost. Although hi-tech prawn culture enterprises were not allowed to enter the lake, non fishworkers, politicians and bureaucrats still encroached on the fish resources. The government became party to this when it decided to classify fish resources into two categories: capture fishery and culture fishery. It is believed that the move was made to facilitate the entry of non-fishworkers.

Subsequently, in response to a case filed by the fishworkers' co-operative, the High Court upheld the classification and directed the state government to lease part of the fish resources to local non-fishworkers. The court also directed the government to remove all encroachments and intensive, semi-intensive and modified extensive methods of prawn culture were banned. There were a few efforts to remove the encroachments. The customary rights of the fishworkers over the fish resources of Chilika lake were not realised in spite of the court verdict. To pressurise the government and to evict the encroachers, the Chilika Bachao Andolan, in the second phase of its struggle, successfully organised *rail roko* and *rasta roko* campaigns.

Meanwhile, the fish resources continue to dwindle due to severe ecological degradation. The area and depth of the lake have been decreased due to heavy siltation caused by flood waters of Daya, Bhargavi and other small rivers. The salinity of the lake has changed gradually as heavy siltation at the mouth of the lake prevented easy discharge of flood water into the sea. Moreover, fish seeds and juvenile fish are being captured to cater to the needs of the coastal prawn culture industry. All these developments have reduced the fish catch by 50% in the past few years.

Although fish resources continue to dwindle, use of new technology or even appropriate technology to enhance the productivity of fish resources seems to have little relevance for traditional fishworkers since they have no control over the natural resources on which they are dependent. "Development" is meaningless for them if it displaces them from their traditional source of livelihood. The experiences of the fishworkers of Chilika illustrate that the preservation of ecology and the protection of livelihood of the poor are two sides of the same coin. These are the basis/foundation for the pyramid of development. ■

FISH ATTRACTING LANTERNS: SURVIVAL STRATEGY OR MARKET ORIENTATION?

Presented by J.B. Rajan

Background

Fish Attracting Lanterns (hereafter FAL) is a new fishing method employed by traditional fishworkers. This practice has resulted in social tension within traditional fishing communities of the coastal area of Trivandrum District. Although records show that different forms of FALs have been used by various fishing communities all over the world, FALs have been used in the coastal areas of Trivandrum only since 1985.

Fish Attracting Lanterns - Features and Changes

Previously, those who went fishing at night took lanterns mainly as a safety measure and to warn ships. Lanterns began to be used for fishing on moonless nights when it was realised that fish are attracted by light. Initially, kerosene lamps were used but gradually they were replaced by other kinds of lights. Now, petromax and gas lights are used mainly.

FALs which are used mainly in the months of November to April has spread to 27 of the 47 coastal villages of Trivandrum district. Fishworkers, fishing mainly with hook-and-line and boatseine, use FALs. The spread of the method has resulted in other changes in the region. For example, there has been an increase in the number of plywood boats, abandonment of drift net operations, etc.

FALs - A Point of Conflict

There are opposing views about FALs among the traditional fishworkers of Trivandrum district. Fishworkers who use drift nets, shore seine and small size gillnets are against the use of FALs. They complain that as available fish are caught in the night by fishworkers using FALs, there is hardly anything left for those who go fishing in the day time. Those who use hook-and-line and boat seine, however, are in favour of FALs. Before FALs came into use, the hook-and-line fishworkers fished during the day and/or on moonlit nights. Now they fish on moonless nights as well.

FAL users justify the use of the FAL on the grounds that it is used widely by inland fishworkers. Also, they protest that other harmful means of fishing are prevalent but only FAL users are being singled out for criticism.

The controversy over the use of FALs has resulted in regular disputes and conflicts between traditional fishworkers in the villages. The use of FALs was not an issue of major conflict in the initial stages. It became a point of conflict when the pace of its adoption increased tremendously.

Contributing Factors to the Conflict

Since the mid 1950s, there have been many changes in technology, and in the socio-political and economic organisation of the fishery sector of Kerala. These changes started with the establishment of Indo-Norwegian project (INP) in 1953. The project created two distinct entities in the fishery sector: mechanised sector and the artisanal/traditional sector. Except for a few changes in webbing, traditional fishworkers continued to rely on their earlier technologies till 1980s.

Since the 1980s, the traditional fisheries sector has witnessed many changes. The FAL is just one of several changes in response to external pressures. It started with motorisation and culminated in the use of plywood boats, artificial reefs, disco nets, ring seine, mini-trawlers and monofilament nets. The changes in traditional fishing technologies are considered to be a response to a severe shortage of fish resources in the 1980s. The fish resources are being depleted rapidly due to an injection of indiscriminate technology from the new business class and a corresponding modernisation of the fishing sector. The traditional fishworkers, faced with a survival crisis, are also seeking new technologies to augment their fish catch. As a result, the total amount of energy invested in exploiting fish resources turns out to be more than the amount of energy invested in under "normal" circumstances.

Points for Discussion

People, whose only source of livelihood is fishing, face several dilemmas and contradictions and are forced to make choices. Although traditional fishworkers are concerned about the state of fish resources, under external pressures they are moving from subsistence fishing to fishing for the market. The manifold pressures cannot be resisted. Many fishing methods that were questioned and criticised earlier are now being adopted. Still, it is questionable whether the FAL is a survival strategy or indicative of a shift towards market-orientation. ■

CONFLICT AND SURVIVAL: QUILON ARTISANAL FISHWORKER COMMUNITY

Presented by Julian Teelar

This case study outlines the changes in the artisanal fishery sector of Quilon bay from ca. 1940s to 1990s. The information for this study was collected from direct observation and discussion with elders and leaders in the community.

The Profile

The Quilon bay area consists of five villages; Pallithottam, Port Quilon, Moothakara, Vaddy and Thangassery. These villages are spread over four kilometres within the Quilon town area. These villages together have population of about 2,500 active fishworker families. About 6 km north of this region is Neendakara, a very rich zone for fisheries, which is the base of operation for over 3,500 coastal trawlers. South of this region is a low intensity fishing zone that stretches for about 25 kms.

This region became an important area for fisheries after the entry of European traders, especially the Dutch and Portuguese. Thousands of people became dependent upon port activities for their livelihood. At this time, fishworkers from east coast villages were invited by village leaders to train the local population.

Certain environmental advantages have made this area favourable for fisheries. The elders have reported that in the past, several different species of fish were abundant in waters at a depth of 25 fathoms. At a depth of 40-110 fathoms, there were coral reefs, which were breeding grounds for various types of big and small fish including valuable prawn varieties. In addition, many sand mounds and sand pits at the depth of 25-35 fathoms provided an undisturbed habitat for many fish. The main varieties of fish caught by the fishworkers included hauerfish, jew fish, sardine, ribbon fish, sea fish, catfish, shark, tuna and carangids. Prawns, if caught, were thrown back into the sea as it was believed that eating prawns caused stomach ache.

Although this region was naturally endowed with fish stock, the fishworkers were financially very backward compared to other groups of workers. The main reason was that fish marketing was completely controlled by local chieftains. The financial dependence on moneylenders for advances and loans in the lean season and loans for other purposes aggravated the problem. Also, traditionally, fishworkers did not invest in the purchase of land removed from the coast.

The majority of fishworkers in this region belonged to the Latin Catholic Church and day-to-day life was influenced by the teachings of the Christ. However, the fishworkers received no financial aid from any organisation, church or diocese. Financial transactions were based on the rules of the local chieftains, merchants and their assistants. Politically, the diocese of the region supported the Congress party and during election times, priests canvassed for it through church forums.

Although the traditional collective mechanism for social conflict resolution and enactment of rules, locally known as *Kadakodi*, was in vogue till early 1970s, landlords and the church had veto power over it. Those who protested against rules or disobeyed were severely punished.

The Turning Point

In 1954, the Coastal Protection Society, formed to combat sea erosion, submitted its report to the Prime Minister. Subsequently, the UNO invited the Norwegian Government to study the problem. The Norwegian representatives who visited the region, noticed the unharvested stocks of prawns and shortly thereafter small groups of fishworkers and non-fishworkers were organised into co-operatives and given boats and trawl-nets on an experimental basis.

This was a turning point in the history of this region as the Indo-Norwegian project is one important cause for the fish depletion and destruction of coastal environment. The project introduced trawlers for the first time in this region and, given the possibility of quick profits, these boats quickly increased in number. Trawlers not only stirred up the sea bed and caused destruction of coral reefs and sand beds, the breeding ground for juvenile fish, but also fished day and night. In no time, the fertile sea was converted into a virtual desert.

Winds of Change

The artisans responded to the situation in three major ways:

Adaptation of new technology
Formation of trade unions
Formation of institutions

The new technology included adoption of marine plywood canoes, outboard engines and larger fishing nets. These helped fishworkers to engage in deep-sea fishing, move more rapidly and catch more fish. Subsequently, the fishworkers formed a trade union and co-operative institutions. These institutions helped fishworkers to articulate their demands, to market their catch collectively and to realise better prices for their fish.

The Movement

In the latter part of 1970s, the process of multidimensional mobilisation of fishworkers was initiated by progressive clergy and some activists of the region. These efforts culminated in the formation of Fishermen Community Development Program (FCDP), Fishermen Welfare Society (FWS) and Kerala Independent Fishworker Association (KIFA). These organisations took up activities like conscientisation and community development, co-operativisation of marketing and credit efforts, mobilisation in favour of implementation of Marine Fishing Regulation Act and the seasonal ban on trawling. By the mid 1980s, the co-operative movement had spread across the state and FWS was part of a three-tier organisation operating at state, district, and regional levels. The co-operative movement partly enhanced by the development of co-operative structure by the Kerala Government could mobilise critical inputs like credit and

technology. This is considered a main reason for the survival of traditional fishworkers, particularly at a time when 3,500 trawlers were operating in the region.

The Contradiction

The situation in Quilon is considered better compared to other parts of Kerala. Nevertheless, it is reported that some of the traditional fishworkers do use mini trawlers and destructive nets like ring seine nets. Also, some of the traditional fishing boats are engaged as carriers on contract basis to unload trawlers. It is an indication of the inherent contradiction within the fisheries sector that those who use destructive fishing techniques and equipment and those who do not are members of the same union and work together. In a similar way, the Break Water Project, one of the many demands of KIFA, and the long-standing dream of the fishworkers, when implemented, victimised many fishworkers of surrounding villages. Many houses and even concrete buildings were destroyed by the sea. The project also impeded the natural flushing action of the sea and resulted in severe pollution. It is, today, a major environmental concern.

Further, both traditional fishworkers and trawler owners are facing the problem of resource depletion. It is feared that the situation will deteriorate with the invasion of foreign agencies for fishing. ■

COPING STRATEGIES IN FLOOD-PRONE NORTH BIHAR

Presented by D.K. Mishra

Background

Bihar is one of the most flood-prone states of the country. According to Rashtriya Barh Ayog, 16.5% of the total flood-prone area within the country is located in Bihar, while 22.1% of the flood-prone population of the country reside in the flood plains of the Ganga and its tributaries in Bihar. The number of flood victims per unit area is highest in Bihar.

A little over 4 crore people live in an area of 54 lakh hectares in North Bihar where eight major river systems drain into the Ganga. All but one of the tributaries originate in the Himalayas. They bring loosely eroded soil from the mountains and deposit it on the plains. The accumulated sediments impede river flow and cause the rivers to meander. The alluvial plains of the Ganga are formed by this process.

Initially, the British tried to contain the vagaries of these rivers. They constructed a few embankments and repaired some of the old traditional structures in a bid to collect protection levy from the farmers. But very soon it was realised that embanking rivers to contain floods was inappropriate. While embankments prevent water from spilling out of the river bed, they also prevent the flow of rain water into the river. Thus, rainwater that would have otherwise drained into the river, eventually floods the plains outside the embankments. The sediments brought by the flood waters are deposited within the river bed causing it to rise and exacerbating the problem of flooding. Eventually, the cost of rehabilitation, relief and compensation exceeded the benefits accrued as the embankments are breached more frequently. This resulted in the British opposing the construction of embankments as long as they ruled the country.

Nevertheless, the initial British vision of embankment for flood control continued in independent India. In 1954, 25 lakh hectares were flood-prone; there was160 kms of embankments. By 1995, this had increased to 71 lakh flood-prone hectares and 3,465 kms of embankments.

A brief description follows of how a natural disaster has become a man-made disaster, and influences the life styles of people in Bihar.

Land Use and Subsistence

The average population density in North Bihar is 754 persons per sq. km compared to the national average of 273 persons per sq. km. The pressure on land is very high. Disparity in landholding further aggravates the problem. According to a survey report (1976-77), 84.6% of cultivators possessed only 37.7% of the total cultivable land in the state. In addition to the fragmentation of land holdings, water logging, sand casting and loss of land due to construction of embankments, rail links and roads cause further depletion of the land resource base.

Migration

There has been a massive migration of labour from flood-affected areas. Local wages vary from Rs. 15 to Rs. 20 per day. Labourers find it easier to earn their living in distant places where their earnings can be Rs. 40 to Rs. 50 a day. But earning a livelihood in distant places is not all that easy. Money has to be borrowed from local moneylenders to finance the trip and the interest rates may be as high as 10% per month. Besides, the money lender often visits the migrant worker-client at his work place. The worker has to sponsor these visits and offer gifts and articles at the end of the visit. The children and wife of the worker-client are forced to work for the moneylender in case the need arises. Further, the worker-client has to give a small amount to railway and police personnel on each trip home. The post office, too, circulates the money sent by worker-clients via money orders on credit before it is delivered to the addressees. All these aberrations have been accepted without protest by the migrant community.

Education

It is not surprising that North Bihar has a miserable literacy rate of 26.58% (male, 37.13%, and female, 15.04%). This is attributed to lack of infrastructure, regular absence of teachers or even students.

Health

Inaccessibility of health centres, non-availability of doctors, absence of any clinical facilities and non-availability of medicines are common features of health services in North Bihar. Many villages were deserted a few years ago when kala-azar spread. Quacks add to people's misery.

A lot has to be done on the health front. Provision of safe drinking water and sanitation may solve many health problems. Clearing of water logging is an enormous task and would need considerable amounts of money and time. Hence, preventive health care is the only answer and the available set-up is inadequate.

Housing

Housing in the flood-prone area is a real problem as houses are frequently washed away or collapse. To get a hut of 3m x 4m one needs to invest Rs. 3000 to Rs. 3500 minimum per year. Thus, just to keep a roof over the family, one family member has to migrate.

Local Skills and Employment

It must be mentioned that, initially, when flood control measures did protect habitations, agriculture was lucrative. Consequently, many artisans and village workers switched over to agriculture either directly or as labourers. As available land began to be divided, and the quality of land was affected because of waterlogging, sand casting and, finally, because of breaches in the embankments, people ought to have returned to their original professions. But enough time had elapsed that they lost their skills. Much of the grazing land was also sand casted or was

waterlogged which led to a decline in the population of sheep and goat. The professions of blanket weaving and sheep rearing started disappearing.

On the other hand, many migrant workers have acquired different kinds of skills. There are hardly any educational facilities available for these people to pursue their skills. Non-farm employment opportunities must be explored.

The Need for Awareness

Too much flood control is undesirable and impracticable. Although the construction of embankments on rivers for the past few years has made this clear, people tend to believe the politicians/engineers/contractors each time they promise that the embankments will surely control floods. The words of this trio is required to be taken with caution in the light of past deeds. The western Kosi canal project has remained incomplete for the past 30 years and crores of rupees have been spent on that. Besides, when eastern Kosi canal could irrigate only one sixth of the stated target area, it is questionable what benefits would accrue even if western canal were completed.

Another naive idea offered to solve the flood problem was that the villages be located on raised mounds. People resisted this programme as it would have created serious drainage problems. A similar idea to de-silt the rivers was proposed. Little do the promoters of such ideas realise the magnitude of such an undertaking: the amount of the earth to be handled, the machinery, the cost and above all where the earth would be dumped. These problems would be in addition to the international tension it may create between India and Bangladesh.

In the waterlogged flood-prone regions, incalculable damage has been done due to waterlogging from the Kosi and Gandak canals. A public debate over the irrigation and flood issue is essential in Bihar. A line has to be drawn between the technical and extra-technical considerations and people must know about both apparent and hidden agenda which should be carefully studied and explained.

Discussion Notes

Embanking the river is not the answer to the flood problem. Rather, it has increased the misery of the people. When the embankments did not exist, the people knew how much water would rise and adjusted their life style accordingly. They might lose the crop in their fields but the waters generally receded in about 15 days. Now, the protection afforded by the embankments is coupled total destruction when the embankments give way. Further, the embankments have caused two problems. Firstly, rain water floods the region as it cannot drain into the river. Secondly, the river gets silted up very fast. The main problem at present is flood due to the combined effect of accumulated rainwater and frequent breaches in embankments. When an embankment is breached, flood waters - a column of water ten to fifteen feet in height - floods the entire region. It seems that Rs. 172 crores have been spent on repairs of embankments during the last five years.

Traditionally, people coped with floods in a different way. For example, four to five feet high earthen embankments used to be constructed on the Damodar river. The design of the embankments was based on several centuries of experience. The stagnated water of the first few rains was utilised to grow paddy seedlings. Mosquito larvae also grow in this water. Two to three weeks into the monsoon season, the water in the river rises. The embankment is purposely broken at different places simultaneously to let the water flow in the paddy fields through a prepared network of big and small canals. The river water brings with it silt and fingerlings of fish which fertilise the fields and feed on the mosquito larvae. Today, this indigenous knowledge is lost and people have become dependent on the government for flood protection.

The debate whether to embank rivers or not continues within government circles. Each political party coming to power in Bihar attempts to gain political mileage out of the problem of flooding. In the process, various solutions, some of them utterly ridiculous, have been tried out (e.g., raising villages onto mounds and desilting the river). The absurdity of these technical solutions becomes evident when one considers that desilting 33 kms of the Kosi river would generate 66 lakh truck loads of silt. The latest proposition is to build 16 dams on all the rivers. The total cost of such an endeavour is unimaginable.

The discussion concluded by highlighting the following issues: dependency generated among the affected masses; the space available for an individual, a citizen or NGO to intervene in a disaster; the strategies for the same and how interventions can be made more influential and effective in the long-term. ■

COPING STRATEGIES IN EARTHQUAKE-HIT MARATHWADA

Presented by Rupa Mukherji

Profile of the Area

The Marathwada region, in central India which was rocked by an earthquake on 30 September 1993, has a very violent history. Many battles and wars were fought in that area. This past history of the region has influenced house design; the houses were constructed with very thick walls as a defence measure. Long after the era of battles and wars, this design persisted as it had come to be associated with wealth. But over time, the quality of construction deteriorated because the construction method was fairly labour intensive and the workers were paid on the basis of surface area rather than on volume of work. Hence, they would build a beautiful facade but would fill the insides of the walls with round rubble or uncut stones without binding elements. When the earthquake occurred, the outer face of the walls stayed intact, but the inner face collapsed because there was nothing binding the two faces together. This was an important reason for the substantial damage during the earthquake.

The region is characterised by undulating terrain. The region is dependent mainly on rainfed cultivation although the potential for ground water irrigation has been developed in the last one-and-a-half decades. As a result, there has been a shift in the cropping pattern from millet and cereals to cash crops like sugarcane and grapes.

The region faces acute water scarcity. There are several villages which depend on tankers for their water supply for about six months a year. Relatively easy availability of water is one reason why the villages were located in the valley areas.

The valley areas have very deep and rich black cotton soil which has the property of expanding and contracting with change in moisture content. This may cause damage to building foundations. Local people addressed this problem by building deep foundations or pile foundations. It was evident after the earthquake that none of the houses located in the valley area were destroyed due to damage to the foundation but by badly constructed walls or heavy roofs. The heavy roofs were necessary for thermal insulation as this region has an extreme climate. In summer, the temperature rises up to 43° Celsius and during winter it goes down to about 9° Celsius. The roofs are built on a framework of timber columns and beams. Slate or timber planks are placed on these and finally a thick layer of earth is applied for insulation. Wherever the frame was made of good wood and the timber had not rotted, the roofs did not collapse. In such houses, the damage was caused by wall collapse.

The houses of rich landlords were built on mounds, because it was strategic from the defence point of view. These mounds were formed basically of rubble. When the earthquake occurred, the mounds collapsed and these houses suffered considerable amount of damage.

Another factor that contributed to the damage was that the area does not have soil that is appropriate as a construction material. Black cotton soil cannot be used. Few villages have

deposits of white soil, but generally, the most commonly available building material was stone. Hence, people had no option but to build with stone. Later, stone and earth were blamed for the damage in that area.

The geographical area of the two districts, where the core damage area was located, is about 15,000 sq.kms. The core area of damage was about 500 sq.kms. The population of the two districts is about 29 lakhs, of which about 0.23%, roughly 9,500 died in the earthquake. About 15,000 people were injured. The total number of houses in the two districts was 5.1 lakhs, and of these about 27,000 were damaged by the earthquake, i.e. 5% of the total housing stock. About 2 lakh houses (i.e. 39% of the housing stock) located in the peripheral area suffered somewhat less damage.

As regards the caste composition, Marathas are the single largest community in the region. Second in the importance are the Lingayats. The other major communities are the Schedule Castes (21% in Latur and about 19% in Osmanabad), and tribal groups. Members of the SC and ST communities have very low landholding. About 10% of the population is Muslim and most of this group is landless. Three quarters of the population is dependent on agriculture or on agriculture-related activities. The only industries in that area are seven sugar mills. About three per cent of the population is dependent upon construction-related activities. More than 40% of the population is below the government-defined poverty line (Rs. 16,500 per annum).

The Government's Approach

After the earthquake, the Government announced that the high damage was due to the fact that the settlements were built on black cotton soil. As a result, a fear of black cotton soil was built into the community psyche immediately after the earthquake. The then Chief Minister went to that area and said that he would relocate the settlers and he would give them houses with springs in their foundations so that if there were earthquakes in the future, the foundations would move up and down without causing damage. In reality, this fear of black cotton soil may not be justified as no houses were damaged due to failure of their foundations.

The Government of Maharashtra launched an ambitious rehabilitation programme called the Maharashtra Earthquake Emergency Relief Programme (MEERP) at a cost of Rs. 10,000 million. Around 75% of the funding for MEERP came from the World Bank, about 12% from donor agencies and 12.5% from central and state governments.

The major component of MEERP was housing (49% of the total budget). MEERP had the following components:

a) Land acquisition and construction on these new sites;

b) reconstruction *in situ* on the existing sites;

c) repair and strengthening houses in the peripheral area which had suffered less damage;

d) construction of model earthquake-safe houses within a budget of Rs. 30,000;

e) construction of infrastructure;

f) community rehabilitation, relief activities, supply of medical help, temporary shelter construction etc.;

g) economic and social rehabilitation of affected people;

h) repair of wells, replacement of milch cattle, farm implements, etc. and

i) provision of technical assistance.

The affected villages were classified as follows for the rehabilitation programmes: A1 villages, where 70% of the houses were damaged and more than five deaths had occurred; A2 villages located on black cotton soil and where there was 50-60% damage and less than five deaths; A3 villages, located on hard rock, and where there were less than five deaths, and extensive damage; A4 villages, where there were no deaths and the houses had suffered some amount of damage. All the villages in other neighbouring districts were classified in B category. There were 52 villages in the A1 category and 14 in A2. All the villages in these two categories were to be relocated on new sites with infrastructure and amenities provided by the government. A3 villages were to be rehabilitated on the old sites (reconstruction *in situ*). Repair, reconstruction and retrofitting were recommended for A4 villages and the B category villages were to be rehabilitated under an owner-driven programme.

The Critical Analysis

The relocation issue came up in a peculiar context. In some villages, dead people were cremated within the settlements. Removal of the debris and reconstruction of villages with many big houses would have been very expensive. Besides, psychologically, people feared a second such disaster and refused to stay in the same place. In these cases, the relocation was valid. The demand for relocation grew when the government announced its programme to give 250 sq. ft of land to the owners of the smallest houses. For many people, it was an opportunity to get a larger house and also a cleaner, better village settlement. As a result, most villages lobbied to be classified as either A1 or A2. In the absence of proper damage assessment, it was basically the clout of the village leaders which worked.

The very size of the government programme meant that other activities initiated by NGOs, INGOs and donor agencies were largely over-shadowed and subsumed in the government programme. The decision-making was largely top down though there was some semblance of community involvement and participatory house design exercises were done. Most agencies followed the RCC-based construction technique proposed by the IIT, Bombay. Five rounds of damage assessment by different agencies left the villagers confused and produced contradictory information.

The component for community participation and information dissemination was entrusted to NGOs. In the area of the employment generation, though there was an opportunity to employ people in construction activities, labourers came from outside. The reason was the emphasis on RCC structures. Local people had no expertise in building with cement and bricks. A considerable part of the construction work was given to private contractors who preferred to

bring in their own labour. Houses that could be strengthened using simple technology like reinforcing joints and providing proper binding material were re-constructed in RCC as people's aspirations changed with the nature and scale of government intervention.

Eventually, the money given by the government did not prove sufficient to build even a one-room house. Because the government set a time limit for various stages of construction work, and the villagers were not able to keep to this time table, many villagers sold the cement given to them at a subsidised rate. Many others borrowed money at high interest rates (32 to 120%), and overspent to finish construction in the stipulated time limit.

People's Response

a) The Relief Operation

In some villages, large landowning families belonging to the Maratha and Lingayat communities did not move to the temporary shelters constructed by the roadside as it was difficult culturally for them to live with their entire families in a small place. They shifted to huts in their fields. As a result, they were cut off from the relief operation. Small farmers faced the dilemma of whether to harvest the Kharif crop or to wait for the relief operation. Every day some donor agency or private company came with relief supplies. It was important to be included in the government survey of affected people. In some villages, larger landlords cornered the relief supply on the grounds that they would distribute it later to landless labourers. Relief agencies also did not try to distribute relief supplies in interior areas.

The temporary shelters lacked necessary infrastructures. There was a severe water shortage and absence of sanitation facilities. The people had to depend upon private contractors for water supply and, in many villages, women had to stay awake all night to collect water. The money distributed for relief and the break down of the social structure encouraged alcoholism among men, and women shouldered the burden of fulfilling family requirements.

b) Relocation

Big landlords played an important role in pressurising the government to select certain relocation sites. The government had announced that the entire revenue village would be relocated at one place. Also, due to fear of black cotton soil only hard rock relocation areas were chosen. The lifestyle of the people, existence of other infrastructure, and location of agricultural fields were not taken into consideration while deciding the relocation sites. This has resulted in the relocation of villages 5-10 kms away from the agricultural fields. Big farmers started lobbying the government and offering less productive land for the relocation. The lower caste people were forced to shift to sites that took them away from labour markets and common property resources.

While deciding the size of sites to be allocated to individuals, the government referred to the size of individuals' landholding. Hence, people who were landless or had less than one hectare of land got sites of 250 sq. ft. Landowners with 1-7 hectares got 450 sq.ft, and those with more

than 7 hectares got 750 sq. ft. In the peripheral areas, people received Rs. 15,000 to repair and strengthen their houses. The construction activity had to be started in the monsoon as the region faces a severe scarcity of water. As a result, the sowing season for the rabbi crop was delayed.

Discussion Notes

An important discussion issue was the response of NGOs to the disaster situation. It was argued that in contrast to the government's approach in Marathwada which generated dependency among the affected people, NGOs could have demonstrated the use of local materials and resources (including human energy) to rebuild and rehabilitate. Unfortunately, there were no NGOs working in the region prior to the earthquake. So, both NGOs and government had the same starting point. It is questionable whether NGOs, even if there had been active support from the government, could have coped with the scale of the work involved. There was a consensus that in disasters, it is difficult for NGOs to reach the entire affected population but they can create alternative response models which can be picked up and improved upon by the people. The top-down approach of the government has had a negative impact on local innovations. It makes more sense to facilitate rehabilitation with material assistance and loan-based programmes rather than grant-based programmes wherein the government takes all the responsibility. In the aftermath of disasters, affected people came together and co-operate across caste and class barriers. NGOs can play a positive role in promoting this behaviour.

The major focus after a disaster, when people are in maximum need of external assistance, should be on relief activities followed by promotion of community-based efforts for restoration of lost assets, common infrastructure, and disrupted economic activities. This supports people's abilities to cope with the problem and address it locally. Any assumptions to the contrary with regard to people's coping abilities can only lead to dependency, a large and unmanageable programme, and widespread discontent regarding its achievements. ■

ANNEXURE A

A.1 - WORKSHOP ON LIVELIHOOD STRATEGIES OF THE RURAL POOR AND THE ENVIRONMENT: CHALLENGES AHEAD

Theme Statement

Today, perhaps more than ever before, people are faced with a wide variety of stresses that threaten their basic sources of livelihood. The situation is critical and, at the same time, dynamic; the nature, i.e., the magnitude and severity, of the threats shift rapidly. This, in itself, is a stress since people have to be on the alert constantly, and prepared to respond rapidly to changing external factors. Those who depend directly on land, forests, and water for their survival have always had to deal with the vagaries of climate and rainfall. Increasingly, however, macro-economic and political factors have added a layer of complexity to even the most basic survival strategies, often being the most decisive factors.

Thus, apart from the increasing rate of environmental degradation, and the severe pressure on common property resources, it is also becoming important to consider the effects of the process of economic liberalisation and its attendant implications, not to forget the North-South debate on environment with a special focus on uneven consumption rates. Lest this enumeration of external forces conveys a picture of all control having been wrested from the hands of people, there are also new opportunities, such as those presented by the panchayati raj system.

Further, people have not been passive in the face of changes. But instances of collective action are in danger of appearing isolated and insignificant compared to the greater forces that are in operation. Frequently, the overwhelming impression is that people have no control over the changes that are occurring. The question arises: are there spaces for alternative thought and livelihood? Have people been able to utilise these spaces?

In the proposed workshop, we wish to address these questions via case studies of solutions that community-based organisations, with or without the help of voluntary agencies, have implemented in response to environmental problems. Participants will look at both successful and unsuccessful examples of collective action, and will try to focus particularly on the experiences of women and marginalised groups. Macroeconomic processes of change will form the context for the discussion, while other significant economic/political developments like the constitutional amendment on panchayati raj could provide the background for alternatives. The case study methodology is being followed so that the workshop will centre on the field experiences and histories of various efforts across the country.

The geographic scope of the workshop will be rural India. Clearly, it is not possible to address adequately all issues related to environment and livelihood in such a large and diverse area. Our effort will be to examine problems that are severe and which affect large numbers of people. Our main emphasis will be to seek out instances of collective action and to study the results of such action, as well as the limits, constraints, and contradictions experienced, and the larger issues which these examples bring up.

COMMUNITY HEALTH CELL LIBRARY AND

The case studies will be organised around four sub-themes: agriculture- and forest-based livelihoods; marine-based livelihoods; coping strategies in areas prone to disasters; and the challenges posed by rural industries. The case studies will be developed around three key questions: how people came to perceive problems related to their survival and to the environment; how a strategy to cope originated and was developed in the community; what is the future of the alternative solutions that have been developed.

At the end of the workshop, participants can hope to have:

* come to a mutual understanding on issues both distinct and common;
* interacted with a wide cross-section of those involved in livelihood and environmental issues;
* brought back the focus of those involved in policy to field experiences;
* explored the possibilities for joint advocacy on issues of public interest, discussed opportunities of joint action vis-à-vis networks, and obtained commitments from resource persons and policy makers for access to information and for advocacy support.

Finally, it is expected that the case studies will be brought out in a publication, thus enabling a wider dissemination of the outputs of the workshop. ■

A.2 - LIVELIHOODS BASED ON FORESTS AND AGRICULTURE

Preamble

The Central Concepts

Two prominent concepts emerge when considering people's livelihood strategies in areas that depend upon predominantly rainfed agriculture.

Food security is the central component of the rural poor's livelihood strategies, and hence it will be a core issue within this sub-theme. Food security will be addressed here more from the perspective of the rural poor, and less from a macro-economic perspective. From this worm's eye view, we need to assess how macro-level food policies have tended to affect these strategies at micro-level. The impact of technology and markets on food security, is a matter of concern with the advent of new economic regimes as also the roles of the different institutional actors in assuring food security.

A gender perspective is essential when trying to understand people's livelihood strategies in rainfed agriculture. Small and marginal farm households depend very much on cooperation (both within the household and with the wider community) for their survival. At the same time, it has to be understood that men and women do have different roles, priorities and stakes in the very process of survival.

The Context: Green Revolution and Rainfed Agriculture

The Green Revolution has been a tremendous success in India in terms of increasing food grain productivity, which was and is essential to keep pace with population growth. At a national level, self-sufficiency in food production was reached through the 60s and 70s by introducing high yielding varieties and improved farming techniques in irrigated areas. However, it also became clear that the Green Revolution has spawned several other developments which are undesirable from the environmental and equity point of view.

Social inequalities within and between regions, villages and households, have sharply increased. The increased productivity and production in irrigated areas through Green Revolution initiatives has tended to skew the factors of production in favour of farmers with access to larger economies of scale. This has put many small and marginal farm households and agricultural labour households in a position of disadvantage. They are faced with fewer options with regard to inputs, labour and markets. Consequently, they are confronted with a worsening food security situation, and see the very foundations of their livelihoods falling apart. Migration in search of alternative forms of livelihoods has increased, and (degrading) land was left fallow, abandoned.

Over-reliance on chemicals has led to neglect of the organic matter content in the soil and to destruction of soil life. Today, in 1995, the yields of major food grains are stagnating or decreasing. In many areas, groundwater depletion has reached the absolute danger zone. Moreover, the Green Revolution has been a catalyst in rapidly altering the very foundations of

rural culture and patterns of interdependence between different social groups. The effects of the Green Revolution have been more pronounced in semi-arid, rainfed areas. These drought-prone areas have been largely neglected by agricultural research and policy makers. Agricultural and food policies have also tended to favour high potential areas more suitable to Green Revolution technology, thereby making rainfed farming an increasingly uneconomic proposition, and area-wise, for 67% of the total cultivable land. It is estimated that the livelihoods of about 400 million people in India are linked to rainfed agriculture.

With the over-exhaustion of land through artificial manipulation, the dramatic gains of the Green Revolution have been visibly tapering over the last decade. The hope of further increases in food production in the country lies in the rainfed zones of the country. The technology and growth-centred paradigm underlying the Green Revolution has become a matter for serious debate, and from various corners a fresh and more relevant paradigm to view agricultural and rural development is called for. The new paradigm should be based upon a deep consideration of the livelihood strategies of the actors in the physical and social environment.

People and Forests

With increasing population pressure, common access and common property area that were optimally used for the benefit of communities within traditional frameworks of social organisation, are under threat. The new economic policies have tended to reinforce a short-term vision founded on the profit motive rather than on sustainable environments or communities. In consequence, forest areas that were already degraded have been incorporated into larger economic plans without consideration for the livelihoods of those who depend upon them. Innovative legislation in the recent past has led to the formulation of people-favouring policies for the management of common property and forest areas. This workshop can discuss the impact of these policies and structures, and their relevance to the livelihood concerns of the affected communities.

Impact of Changing Macro-economic Policies

How will the new economic dispensation affect the livelihoods of the rural poor who have been depending on dryland agriculture for centuries? Will these policies only fuel the process of commercialisation of agriculture with its many undesirable (side?) effects? Or, will these policies spur a greater productivity and quality consciousness that will enable small and dryland farmers to compete on better terms in the market? Corporate sector companies have quickly turned the new policies to their advantage, and their presence is already being resented in fertile rainfed areas because of large-scale monoculture plantations as well as in fragile delta areas because of shrimp farms. It is argued that this trend is more dangerous than what happened before because the land is now going out of the hands of farmers completely into the hands of MNCs and the private sector, who seem to have profit maximisation as their main concern. They show little consideration for the maintenance of natural resources, and even less for the fact that these constitute the very foundations of the livelihoods of the rural poor. Some of these issues are worthy of debate at the workshop.

The Changing Roles of NGOs

Over the past ten years, many NGOs which were earlier active in awareness raising, adult education and community development, have made a conceptual shift and started to address the problems of land degradation, drought and deforestation, in relation to poverty. Some agencies have addressed the issues at micro-level from the point of view of affected communities and groups; others have related it to macro-level policies which themselves were partially responsible for the increasing problems faced by poor farming and agricultural labour households. NGOs have entered with a fair degree of success into areas such as watershed management, social forestry, sustainable agriculture - with or without technical support, in collaboration with Government institutions or by themselves.

In this process, NGOs have had to review their own frames of action. Whereas they earlier had a clear target group approach, often addressing exclusively the marginalised sections of the community, they now have had to come to grips, in the most practical sense, with communities as a whole. This implied the need for a very thorough understanding of social dynamics and politics within and between communities, and a new set of skills was required to deal with all this.

Panchayati Raj

The steady establishment of panchayati raj institutions all over the country has been welcomed as a positive effort to decentralise power and decision-making. It is hoped that this will allow a smaller loop of democracy to function, where local bodies can plan for their own futures using local resources and finance. What does this mean for socially-disadvantaged groups such as tribals and fishermen, whose livelihoods are dependent on their environments? Will the panchayati raj structure allow for a more holistic expression of community needs? Will such expression allow for balance between the economic survival needs of communities (employment-generating units, agro-industry) and the need to preserve their environment?

Innovative Approaches

The overall context, as very briefly outlined above, does not give much reason for optimism. However, a great deal of human creativity has gone into fighting the processes of degradation, exploitation and alienation. In different environments, different approaches have been developed. Some of them may be based on age-old rural wisdom, others are a creative response to new challenges. It is attempted to show both diversity as well as commonalties between these cases. It needs to be acknowledged however, that these are just a few cases, and that it is simply not possible to do justice to the wide variety of approaches developed.

Expected Outputs

1. To arrive at a mutual understanding on issues related to livelihoods strategies in agriculture and forestry, global and local;

2. To share innovative approaches developed by community-based organisations and NGOs in addressing problems of eroding livelihood bases of the poor;

3. To understand the wider policy implications of priority livelihood issues in dryland agriculture and forest areas, and of the approaches used to operationalise policy;

4. To translate these insights into a policy agenda for personal and organisational commitment and action for development actors at all levels.

Methodology

Case studies will be prepared of attempts - successful or otherwise - by communities, with or without the help of external agencies, to cope with the increasing challenge of relying on dryland agriculture and forests as sources of livelihoods. These will be prepared by resource persons or organisations in collaboration with community-based organisations. The focus will be on community-level action, in the context of the existing natural and policy environment. Particular attention will be given to the new economic policies and the new challenges posed by the revitalised Raj system, and to identify what qualitative changes, both positive and negative, have occurred as a consequence of these. ■

Edith van Walsum,
Bangalore, 20.10.95

A.3 - THE CHALLENGES OF RURAL INDUSTRY IN THE CONTEXT OF BROADER DEVELOPMENT ISSUES

Introduction

Even though India is a predominantly agrarian society, the need for non-farm livelihoods has long been recognised. The limited amount of arable land available for cultivation and distributional inequities have meant that alternative livelihood strategies have had to be identified and developed. Rural industry has emerged as an important though controversial alternative. The controversy arises from several factors ranging from uncertainty over the meaning of the term "rural industry" to whether rural industry can simultaneously meet social and economic objectives satisfactorily.

The term "rural industry" was first used by the Planning Commission in 1962. The same body, in 1988, defined rural industry as industries such as khadi, village industries, handloom, handicraft, sericulture, coir, service and tiny industries situated in rural areas. The government has consistently used the term to refer to village and small industries; modern small-scale industries located in rural areas have been excluded.

There is debate over the word "rural", too. NABARD classifies settlements with a population of less than 10,000 as rural. But it is important to remember that "rural" is a dynamic term. In fact, the setting up of an industry (especially large PSUs) can trigger a rapid urbanisation process.

There are stipulations regarding scale of investment and number of people employed as well, since rural industry is part of the small-scale sector. In 1987-88 small industries had an average investment of Rs. 50,000 in fixed assets and employed an average of six people.

Rural industry can be further classified as "traditional" and "modern" industries. In this sub-theme of the workshop on Livelihood Strategies of the Rural Poor and the Environment, we will be looking at both traditional and modern rural industries, i.e., at industries that use traditional skills and technologies to make traditional products to meet local needs, and at industries that use more sophisticated technologies and production conditions, are connected to the industrial sector at least for machine parts and other inputs, and create full-time employment.

Key Issues

In the post-independence period, the traditional sector became part of the concern for social welfare and employment generation. There was little stress on viability or efficiency. In contrast, there was more emphasis on efficiency and productivity in the modern sector. While both sectors were protected by government policy, the modern sector was promoted as well. The net effect of this superficially supportive policy environment has been that traditional sector has declined in terms of productivity and employment, whereas the modern sector has grown. Today, rural industry and village industry are at the bottom of the industrial hierarchy. Migration of the rural poor to urban areas continues apace.

Still, rural industry remains an important avenue for income generation from the point of view of women, of the agricultural labourer, the marginal farmer, and the small farmer. But it is a sector into which people are pushed due to lack of alternatives. How can rural industry become a sector that pulls people instead? How can it contribute to the creation of full employment, while using technologies that are worker- and environment-friendly? Some issues that need to be addressed in order to answer these questions include:

- the role of the state;
- the credit delivery system for the rural non-farm sector;
- investment in research and development;
- technology and production conditions;
- marketing;
- the environmental context and consequences of rural industries;
- placing rural industry within the overall development perspective and strategy.

Approach to be Taken in the Workshop

There have been several approaches to rural industry so far and several schools of thought. From the Gandhian philosophy of gram swarajya and swadeshi, has grown a strong tradition of khadi and village industries. While these have and will play an important role creating livelihoods in rural areas, and are, by and large, environment- and worker-friendly, they cannot solve the problem of un- and under-employment in a rapidly changing world. Besides, khadi and village industries have faced serious problems of quality control, design stasis, and marketing.

At the other end of the scale, many urban-market-oriented industries have located in rural areas to take advantage of easy access to raw materials, and sometimes to cheap, unskilled labour. While these may have provided minimal employment to local people, it is, in fact, difficult to determine their net impact. These employment benefits have to be weighed against the depletion of the natural resource base resulting from the activities of these industries, the consequent undermining of the long-term livelihoods of local people, and the short-term occupational health hazards.

There is a school of opinion that ecological regeneration at the village level is the only sustainable route to increasing livelihood possibilities in rural areas. Others feel that rural industry will only become viable if it moves beyond survival and subsistence modes of operation, to a scenario of surplus, i.e., to an entrepreneurial mode. Whatever the perspective regarding the strategy, there is a growing consensus that local decision-making power regarding the local resources is a pre-requisite.

In this sub-theme, using specific cases, we will explore different approaches to rural industry and their implications for livelihood strategies, with particular reference to environmental

impacts. We will look at problems and solutions from different points of view: that of people themselves, of women, men, and children, of workers' groups, of community-based organisations, of the government, of research institutions. Our focus will be on achieving greater clarity on the future potential role of rural industry in livelihood strategies. In developing this clarity, we will look to past experiences of how apparent contradictions can be and have been resolved within the sector. In particular, we will use the case studies to explore

- the concept of rural industry/rural industrialisation, and its rationale: what is the main purpose of rural industry and by what criteria should the performance of rural industry be judged?
- individual vs. collective entrepreneurship;
- the opportunities and constraints contained in the forward and backward linkages of rural industry;
- innovative experiments, past and potential, in rural industry;
- the implications of the New Economic Policy and "globalisation" for rural industry;
- possible roles for external actors (community based organisations [CBOs], policy makers, donor agencies, etc.) in supporting people's initiatives and new developments in rural industry.

Expected Outputs

1. To arrive at a mutual understanding on issues related to livelihood strategies in rural industry: employment, migration, declining investments in agriculture, safeguarding of people's indigenous knowledges.
2. To share innovative approaches developed by people and community-based organisations in addressing problems of eroding livelihood bases of the poor.
3. To understand the wider policy implications of priority livelihood issues in rural industry, and of the approaches used to operationalise policy.
4. To translate these insights into a policy agenda for personal and organisational commitment and action for development actors at all levels. ■

A.4 - IS IT THE GOOSE OR THE EGG THAT IS GOLDEN?

LIVELIHOOD, FOOD, FUTURE AND MARKETS: THE SURVIVAL STRUGGLES OF SMALL-SCALE FISHWORKERS

... the goose would lay a golden egg every day. With this assured income, the farmer, his wife and his children lived contented. Until... one day the farmer thought that he could become very rich. Mused the farmer: "If she is laying golden eggs, she must be golden inside... Why! I can be a very rich man at the batting of an eye!"

The livelihood system of 14 million people of our country correlates directly with the homeostasis and regenerative vitality of the aquatic and ichthyological systems, and the way these in turn interface with larger natural and human systems.

Fisheries in India had always been by small subsistence fishworkers, for small rural and urban working and middle class, and with small, low energy entropy, decentralised and low cost technology. Its resource accessing and sharing systems were fairly equitable, socially just and ecologically sustainable. It had contributed efficiently to food security for the poor.

The work organisation of the fishworkers and its nexus with the eco-bio system were explained and legitimised by belief systems and culture. The sea was a goddess, a mother. They went to her with love and awe. They followed carefully the prescriptions and proscriptions of the sea court. They valued caring and sharing.

However, from the 1950s, industrial fisheries initiated by the state and fueled by merchant entrepreneurs began to be developed. Concern shifted from production for food and livelihood to exploitation for the export market.

The euphoria through the 60s and early 70s, the dominant paradigms of the day, the clout merchant capital wielded and the mindset of planners/administrators prevented adequate appreciation of the dynamism and worth of the small sector. These also excused planners from critiquing the appropriateness of the technology and management regime introduced vis-à-vis the nature of fish, fisheries, tropical waters, fishworkers and fish consumers.

The burden and cost of harvesting export varieties (trawlers and their biological and ecological devastation of fish and fish habitats) were soon passed to workers. The crew turned trawler boat owners, tried to meet low productivity and increasing costs by intensifying fishing efforts and by encroaching into the fishing grounds of traditional workers.

Artisanal workers reacted by organising themselves for fishing regulations. But when these struggles met with resistance from the political economy, some opted - reluctantly - for trawlers, to work as crew in purse seiners or to use their boats as carriers. Others remained in the artisanal sector, but upgraded their technology.

Innovations have not contributed to improved productivity and standards of life of small scale fishworkers. Rather the situation is further vitiated: more people chasing faster fewer fish with more equipment in the same waters. Returns from higher fish price is being fast negated by spiraling investment/O&M costs. Dependency on imported and/or less ecologically sustainable gear/motors/energy is reinforced.

The situation is no better in the inland waters. Here the crisis is from the negative impact of development in: forestry, agriculture, irrigation, industry, urban development, tourism. These find their way, through water, into fisheries. The inland water bodies are shrinking and under severe environmental stress. Fishworkers are losing their worker status. They have few other alternatives than to swell the number in the job market.

This dichotomous development has now escalated into a major crisis: falling productivity, rising economic and ecological costs, pauperised small scale fishworkers both in the artisanal and modern sectors, fast disappearing inland fisheries, increasingly inequitable sharing of the product and earning from it. As always, tensions take the form of conflicts between workers themselves. This contradiction obfuscates the real issues.

New areas of concerns are emerging, some of them more alarming than the contradictions within the sector.

The globalisation of the economy is opening up our resource base to transnationals and to their Indian subsidiaries. The new deep sea fishing policy claims that there are untapped large fish stocks in the Exclusive Economic Zone. India is now licensing joint venture with foreign companies for exploiting this stock. But fishworkers and their supporters are convinced that this is a total sell out and a ploy through which foreign capital aims at maximising profits with their over capitalised and idle technology. The state is unable to effectively regulate these "joint" ventures.

The rapid entry of private business into export-oriented and intense aquaculture also brings with it a host of problems: degradation of soil and water bodies, ecological costs, displacement of traditional fish and agricultural workers, fish diseases, threat to natural fish resources and to health.

The dominant paradigm of today is TINA. *There Is No Alternative* to the market. Market will push development in the direction of capitalisation and technology build up. Micro-enterprise alternatives are not viable against the economies of scale involved. The third world poor cannot stand up to the economic/political clout of the global market. Resistance will take the poor nowhere (it is being orchestrated by romantic middle class who have their axes to grind!). The growing internal contradictions in the traditional sector show that unlike the compulsive activists, the workers know that they have to be pragmatic, that they cannot address the issue of their survival by being nostalgic for traditions, that they have to go on and integrate themselves with the market or *(and!)* perish.

These "ADVOCATES" of IMF/IBRD/WTO, some of them converts from the activist milieu, and not without better axes to grind than the activists, would plead for development processes

that serve as ladles in the international soup kitchens (safety nets!). There are no options for the poor. And one cannot have concerns removed from compulsions!!!

In four case studies under this sub theme, small scale fishworkers and their organisations (political and economic) share their perceptions. These consider TINA as theoretical reductionism. Shallow understanding of the dynamics now developing in the sector. Market can be reshaped by people.

Despite setbacks, growing complexities, internal contradictions within and vested interests of the other powerful actors involved, state policy is being slowly reoriented towards more integrated planning for fisheries development and management, with people, food and future as important policy concerns. We must look how far we have travelled down the road. Not only at how far we have yet to go.

People - across the globe - have their future at stake. A coalition for reshaping the market is more pragmatic than some would admit. This larger link up will aim at bringing together small scale fishworkers in the country and will build alliances with all dispossessed. Including those who will be off-loaded from the organised sectors into the safety nets. This coalition must also cut across nations, look to the UN and its organisations (ILO for instance) and lobby for accountability of all nation states to them.

As long as democratic spaces can be preserved and enlarged, market can never be totally oppressive. But eternal vigilance, newer and sustained political and economic struggles are the price the poor must pay for survival for themselves and for their children: as self reliant and self-respecting nurtures of their livelihood systems and as responsible producers of development.

There are Alternatives: strengthening democratic processes and developing capacities for competitive and people based economic initiatives for managing natural resources. We must resist the surrender of our natural resources to the market.

We may yet care about food, future and life! We may yet realise that the poor whose survival depends on nature are the best bet also for our own future! We may yet have the good sense and settle for a golden egg a day - from a goose that is alive! ■

A.5 - TOWARDS MEANINGFUL DISASTER MITIGATION: A LOOK AT COPING STRATEGIES IN DISASTER-PRONE AREAS

Background

Between 1960 and 1981, India has experienced 96 internationally recognised natural disasters, losing about 60,000 human lives (by conservative estimates), which account for about one-fifth of the global disaster death count. Analysis of official statistics shows that between 1940 and 1980, the rate of decadal growth in the disaster affected population in India has increased at a rate which is greater than the population growth in the same period.

These disasters have affected the environment in terms of loss of human lives, loss of property, damage to public utilities and infrastructure, etc. Often described as natural disasters, these turn out to be social disasters as well, tending to choose their victims by class. One disaster makes the poor more vulnerable to the next and, in this way, converts a disaster into a disaster process.

The link between livelihood strategies and environment is highlighted in a disaster affected area, as mitigation strategies tend to have their impact on the social or ecological environment and hence livelihoods. Given that the majority of the affected suffer from a spatial disadvantage, their protest often goes unheard in the places that matter. This sub-theme should serve as a platform to voice that there are still avenues open for action.

Key Issues

One of the areas of focus would be to understand how lifestyles have been affected or have adjusted in a post-disaster situation. This would look at discernible changes in livelihood patterns, strategies for living with the disaster and the psychology of the affected population. With this as the basis, we would look at the broader issues such as the following ones:

Responses to Disaster

The affected population's response or strategy would be of prime concern. Another aspect of importance would be to understand the driving forces behind the state's policy response to the disaster and its evolution over time. Questions regarding how the policy translates at the field and how it matches (does not match) with the needs of the population should provide a good understanding of the current status.

The Politics of Disaster Relief and Rehabilitation

Analysis of how the disaster relief process works would give us an idea of who corners benefits and the extent. Instances of mobilisation by the affected to make the rehabilitation process more owner (people) driven would be an alternative benchmark. Instances of how self-reliant communities have been turned into relief seekers should be pointers on things to avoid in a future scenario.

Alternatives

Successful instances of alternative methods to handle disasters, if any, and the imperatives and contents of these solutions would be positive directions.

Approach

The approach for this sub-theme is the hypothesis that wherever there has been community induced coping mechanisms with/without support by external agencies, there exists the possibility of recovery with minimum damage. It also hypothesises that for inhabitants in a disaster zone, it is imperative to learn to live with the hazards (rather than creating *large scale* technical solutions causing greater repercussions) and that policies have to take the underlying social imperative into account. This sub-theme would be limited to natural disasters like earthquake and floods as these are two major causes for damage - economic and social - in the Indian sub-continent.

Issues to be Addressed in the case

Case studies would be prepared of attempts by communities, with or without the help of external agencies, to cope in the wake of a disaster and regain their lost equilibrium with the environment. These would highlight the perspective of the affected groups and would look at micro-level collective action in the context of the existing public policy environment. These illustrative actions seen within the context of the new economic programme and democracy experiments (Panchayat Raj) would help in developing the framework for discussion.

Expected Outputs

1. To arrive at a mutual understanding on issues both distinct and common to natural disasters across regions.
2. To identify areas for future collaborative or supportive action. ■

ANNEXURE B

WORKSHOP ON LIVELIHOOD STRATEGIES OF THE RURAL POOR AND THE ENVIRONMENT: CHALLENGES AHEAD

to be held at the Indian Institute of Management, Bangalore
Bannerghatta Road, Bangalore 560 076
Tel. (080) - 663 2450

9-12 December 1995

AGENDA

Saturday, December 9, 1995

15.00 - 15.30	Registration Tea/Coffee
15.30 - 16.00	Introduction to the workshop Introduction of participants **Chair: Prof. Madhav Gadgil**
16.00 - 17.00	Keynote address by Ms. Madhu Sarin
17.00 - 17.30	Discussion
17.30 - 18.00	Workshop schedule
18.00 - 19.30	Video vantage points on livelihood strategies & environment **In the Dust of Development** A film by Meera Dewan
20.00 - 21.00	**Dinner**

Sunday, December 10, 1995

Please note that there are two sessions running simultaneously today: you will have to choose one.

TIME	FISHERIES	DISASTER
9.00 - 10.00	Plenary overview session An Introduction to Fisheries-based Livelihoods - Shri V. Vivekanandan An Introduction to Coping Strategies in Areas Prone to Disaster - Dr. Somnath Sen	
10.00 - 10.30	**Tea/Coffee**	
10.30 - 13.00	Case Presentations **Chair: Shri V. Vivekanandan;** **Rapporteur: Shri Satish Babu** **Discussant: Shri Kurian Katticaren** *Conflict and Survival: Quilon Artisanal Fishworker Community* - Shri Julian Teelar *Impact of Industrial Aquaculture on Ecology and Livelihood* - Shri Subba Rao	Case Presentations **Chair: Dr. Somnath Sen;** **Rapporteur/Discussant:** **Shri Rajiv K.R.** *Coping Strategies in Earthquake-Hit Marathwada* - Ms. Rupa Mukherji
13.00 - 14.00	**Lunch**	
14.00 - 16.00	*Future of Chilika Fishworkers: A Life of Struggle and Despair* - Shri Ramesh Chandra *Fish Attracting Lanterns: Survival Strategy or Market Orientation?* - Shri J.B. Rajan	*Coping Strategies in Flood-Prone North Bihar* - Shri Vijay Kumar
16.00 - 16.30	**Tea/Coffee**	
16.30 - 17.30	Plenary Wrap-up of day's proceedings with key points from sub-themes and points for discussion	
17.30 - 19.30	Care to share? Participants' display and exchange of training materials, reports, books, posters, photographs, videos, etc.	
20.00 - 21.00	**Dinner**	

Monday, December 11, 1995

Please note that there are two sessions running simultaneously today: you will have to choose one.

TIME	AGRICULTURE	RURAL INDUSTRY
9.00 - 10.00	Plenary overview session An Introduction to Agriculture- and Forest-based Livelihoods - Dr. H.Sudarshan An Introduction to the Challenges Posed by Rural Industry - Prof. Vinod Vyasulu	
10.00 - 10.30	**Tea/Coffee**	
10.30 - 13.00	Case Presentations **Chair: Dr. H. Sudarshan;** **Rapporteur/Discussant:** **Dr. Gita Sen** *Crisis and Social Dynamism in the Siddi Tribal Community of North Kanara: An Institutional Analysis of Land, Technology, Culture, and Organisation* - Shri T.N. Prakash, Shri N. Narasimha, Shri A.S. Anand, and Shri V.K. Arunkumar *A New Threat to Livelihood in Rural Tamil Nadu* - Shri T. Fatimson	Case Presentations **Chair: Prof. Vinod Vyasulu;** **Rapporteur/Discussant:** **Shri Sadananda** *Environmental Challenge Posed by Agate Industry at Cambay, Gujarat* - Shri Amar Vyas and Shri Joseph Pateliya *Urmul Marusthali Bunkar Vikas Samiti* - Shri Ramachandar Barupal and Shri Tarun Sarwal
13.00 - 14.00	**Lunch**	
14.00 - 16.00	*Towards Food Security of the Poor* - Shri K.S. Gopal *Efforts to Organise Women for Bio-resources Management* - Ms. Seema Kulkarni	*Rural Industry and Regional Development in Banaskantha, Gujarat* - Ms. Reema Nanavathy
16.00 - 16.30	**Tea/Coffee**	
16.30 - 17.30	Plenary: Wrap-up of day's proceedings with key points from sub-themes and points for further discussion	
17.30 - 18.30	Video vantage points on livelihood strategies and the environment **A Narmada Diary** A film by Simantini Dhuru and Anand Patwardhan	
20.00 - 21.00	**Dinner**	

Tuesday, December 12, 1995

Concluding session

9.00 - 10.00	Plenary Key issues for further discussion in the sub-themes on Agriculture- and Forest-based Livelihoods, and Rural Industry **Chairs: Shri Rajendran Nathan and Shri R. Suresh**
10.00 - 10.30	**Tea/Coffee**
10.30 - 11.30	Plenary Key issues for further discussion in the sub-themes on Marine-based Livelihoods and Coping Strategies in Disaster Prone Areas **Chairs: Shri Rajendran Nathan and Shri R. Suresh**
11.30 - 13.00	Plenary Taking the identified issues forward **Chairs: Shri Rajendran Nathan and Shri R. Suresh**
13.00 - 14.00	**Lunch**
14.00 - 16.00	Plenary Implications for future action and policy **Chair: Shri Yellappa Reddy (concluding remarks)**
16.00 - 16.30	Closing **Tea/Coffee**

ANNEXURE C

WORKSHOP ON LIVELIHOOD STRATEGIES OF THE RURAL POOR AND THE ENVIRONMENT: CHALLENGES AHEAD

9-12 December 1995
Indian Institute of Management, Bangalore

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8. ***Structural Adjustment: Economy, Environment and Social Security***,
   (Can be obtained from Macmillan)
   Editors: Shobha Raghuram, Heiko Sievers and Vinod Vyasulu, Macmillan, New Delhi, 1995.
9. Technical Report Series 1.4, ***Rethinking Population***, Jointly organised by Hivos Regional Office South Asia, Bangalore, Co-ordination Unit, Bangalore and the Center for Reproductive Law and Policy, New York,
   Editors: Shobha Raghuram and Anika Rahman, 1996.
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    A Hivos Monograph, 1996.
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14. Technical Report Series 1.7, ***Livelihood Strategies of the Rural Poor and the Environment Challenges Ahead,***
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Forthcoming Publication:

15. Leela Gulati and R. Ramalingam, ***Poverty and Deprivation: Profiles of Madhya Pradesh and Bihar.***
    A Hivos Monograph, 1998

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In order to have an impact, Hivos wishes to focus its funding efforts. One way in which this is done is by limiting the geographic area in which Hivos works. In 1997, Hivos provided support to 679 organisations in 29 countries concentrated in Southern and East Africa (36%), Central America (36%), Asia (23%) and Europe (5%). In Asia, Hivos concentrates its efforts in India, Sri Lanka, Indonesia, Malaysia and the Central Asian Republics of the former Soviet Union. India is the largest country programme in Asia. Hivos supports organisations in the following states: Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, Gujarat, Goa, Maharashtra, Rajasthan and New Delhi.

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